The RUBBER AGE

225 Fourth Avenue, New York

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PROSPERITY IN THE RUBBER INDUSTRY IS CONFIDENTLY PREDICTED FOR 1926

Tire Production has been Steady Where Usually it Slows Up—Rubber Industry in More Prosperous Condition Than Any Other—Good Business to Continue

Because late summer production has been running higher than in any summer since the war, rubber manufacturers are looking forward to the spring when they confidently expect to exceed all records in volume of business.

They base their predictions on low tire stocks, increased road building throughout the nation, the sale of new cars which is certain to be heavy with the present price-cutting wave, and replacements on old cars. Combined, these conditions would give tire manufacturers a good year.

Most Prosperous Industry

The rubber industry during the first half of 1925 was in more prosperous condition than any other. Its general gain was 20 per cent; in the Akron district it gained from 25 to 30 per cent. The increase in the volume of business may be seen in the latest statistics issued by the Rubber Association. In the first six months of 1925 183,413 tons of rubber were used, compared with 142,955 tons in the same period last year. In 1924, 1,687,775 balloon tires were manufactured; 7,750,300 were produced in the first six months of 1925.

The value of rubber goods manufactured in the first half of 1925 was $539,180,000, compared with $416,751,000 in the first half of 1924. Even during the late summer when production usually slows up considerably, and in some years has seen almost a shutdown, it has held steady so far this year. There probably will be a slight decrease in October and November.

Production during July was higher than during previous years, and in the first half of August averaged about 32,000 tires a day. According to Rubber Association statistics, the production of balloon tires in June was 1,729,121, compared with 1,803,607 in the previous month; inventory was 1,527,684, compared with 1,386,840 during the previous month; and shipments were 1,573,062, compared with 1,484,877 in May. Production of cord tires in June was 1,894,704, compared with 1,815,969 in May; inventory was 2,870,827, compared with 3,610,304 in the previous month; and

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GOODRICH SIX MONTHS' PROFITS ARE $9,751,924

The consolidated income account of the B. F. Goodrich Co., Akron, for the six months ended June 30 shows net sales of $60,434,755, compared with $50,137,665 for the same period of 1924. Net operating profit was $9,751,924, compared with $4,725,601 for the previous period. Total income was $10,315,209, against $5,135,528 the first half of 1924, and net income as $7,106,616, against $2,775,017. A balance of $5,928,516 compares with $1,514,547 for the first six months of 1924.

Fisk May Pay Back Dividends

The Fisk Rubber Co., Chicopee Falls, Mass., is planning to pay off the accumulated dividends on its first and second preferred stocks with an offer of new common stock in lieu of cash. Although minor details have yet to be worked out, the plan under consideration provides for an offer of one share of common to holders of both the first and second preferred in full settlement of the dividend accumulation.

Wilmer and Litchfield Sail

E. G. Wilmer, chairman of the executive committee of Dodge Bros., Inc., and chairman of the board of the Goodyear Tire & Rubber Co., Akron, sailed for Europe with Mrs. Wilmer recently. P. W. Litchfield, vice president of the Goodyear company also left for England recently.

British Tire Exports Increase

British exports of automobile tires in June are officially reported as 82,790, compared with 72,384 in May, 71,425 in April, 86,000 in March, 57,000 in February and 55,000 in January. The monthly average for the first half of 1925 is 70,800, compared with 45,800 monthly throughout 1924.

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PROSPERITY IN RUBBER INDUSTRY SEEN IN 1926

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shipments were 2,610,409, compared with 2,266,073 in May.

Production of fabric tires in June was 439,397, inventory was 1,033,840 and shipments were 869,058. Production of balloon tubes was 1,640,465 in June, inventory was 1,896,178 and shipments were 1,600,410. In June 3,566,099 high pressure tubes were produced, inventory was 5,910,609 and shipments were 5,173,477. Production of solid tires was 63,545 in June, inventory was 115,657 and shipments were 73,501. Production of cushion tires was 21,491, inventory was 37,441 and shipments were 17,441.

In June 53,366,781 lbs. of crude rubber were used by the manufacturers reporting to the Rubber Association; this compares with 47,639,298 lbs. in May. Consumption of gasoline in June was 868,000,000 gals. and in May 832,000,000 gals. The production of passenger cars in June was 364,806, and of trucks 37,890.

Globe's Taxes Reduced

A reduction of $37,225 on realty assessment and $40,000 on personal assessment on the plant of the Globe Rubber Tire Mfg. Co., Trenton, N. J., has been allowed by the County Board of Taxation. The previous realty assessment had been $112,225 and the personal levy $75,000.

Lost Coin Reveals Stolen Rubber

Through the loss of a quarter which rolled under a garage door in Williamsburg, Brooklyn, a detective recently discovered 550 cases of crude rubber which had been stolen from a lighter in the Hudson River a few days before. The thieves confined the captain of the lighter to his quarters and towed the lighter from its mooring in the Hudson to the foot of Dupont St. in Brooklyn with a tug. There they removed the rubber.

Miller Tests Tire Wear

Through observation of tire performance in tests totaling six millions of miles annually, the Miller Rubber Co., Akron, has established the fact that automobile tires will wear out more than 50 times as rapidly on poor roads of certain types than they will on the best roads.

L. L. Barnholt Promoted

L. L. Barnholt has been appointed New York Branch Manager by the India Tire & Rubber Co. of Akron, Ohio. Barnholt has served in the New York territory for several years as assistant branch manager. He is well known throughout the New York district and is thoroughly familiar with conditions in that territory.

W. E. FOUSE THINKS THE STEVENSON PLAN IS FAIR

"We have no fight with the British. Restriction of rubber production was necessary," W. E. Fouse, vice president of the General Tire & Rubber Co., Akron, told members of the Kiwanis Club at a recent luncheon in Akron. "The shortage of rubber is due to the increased use of balloon tires and speculation only," he asserted.

"Practically all the increased amount of rubber used over the normal increase this year went to stock dealers with new sizes of tires. This is proved by the fact that gasoline consumption has not increased with rubber production. From now on we will have only the normal increase caused by dealers replacing stock. We make a profit selling Europe wheat and cotton and they are entitled to make a little money out of rubber in order to keep their plantations going. They have the logical places for growing rubber."

Kitchel Returns from Europe

A. F. Kitchel, sales manager of Binney & Smith Co., New York, returned to the United States on board the Cunarder *Franconia* August 24th. He was accompanied by Mrs. Kitchel.

Increase Bus Tire Output

The India Tire & Rubber Co., Akron, Ohio, announces that its production on bus tires has trebled in the past sixty days.

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FIRESTONE LEASES LARGE TRACT IN LIBERIA FOR A RUBBER PLANTATION

Organization of Company Capitalized at $100,000,000 is Contemplated for Exploitation of Tract of One Million Acres—To Start in Near Future

Negotiations which have been in progress for the past six months were virtually completed recently between Harvey S. Firestone, president of the Firestone Tire & Rubber Co., Akron, and the Liberian Government, represented by Edwin Barclay, Secretary of State, for the leasing of 1,000,000 acres of land in the African republic for a rubber plantation. While Mr. Barclay was in Akron details of a long term lease were worked out; this lease is expected to be approved shortly after he returns to his country.

After receiving assurance from Secretary Barclay that the Liberian Government is ready to approve of the proposition, Mr. Firestone announced that he will place the large tract under cultivation. He is planning to send a large force of men to Liberia to prepare the land for a rubber plantation.

Although no official statement has yet been issued concerning the organization of a new company to operate the plantation, it is known that such a company is being contemplated. It is expected that it will be capitalized at $100,000,000.

Move is Significant

The lease marks the first effort of an American rubber manufacturer to grow rubber on such a large scale, although the question has been agitated for years. Mr. Firestone has long been interested in projects for growing rubber under American control and has waged a strenuous fight against the British monopoly. Two years ago his campaign resulted in the appropriation of $500,000 by Congress for a crude rubber survey. The Firestone company already has a tract of 1,000 acres under rubber cultivation in Liberia. Liberia, a negro republic on the west coast of Africa, has about the same area as the state of Ohio.

Mr. Firestone predicts that Akron will not only remain the center of the rubber manufacturing industry but will become also the headquarters of the rubber growing industry of America. This would be brought about, he indicated, through the formation of a mammoth corporation designed to grow rubber in foreign countries and financed by American capital.

"Americans should produce their own rubber," he said. "It is one of the most profitable investments American capital can make as will be shown by the fact that rubber is being produced on many plantations at the rate of 10 cents a pound and less and the average cost is less than 15 cents."

Conditions for growing rubber in Liberia are said to be highly favorable. There is plenty of acreage available and labor is fairly low, the rate being about 25 cents a day.

Wyandotte Buys Factory

The Wyandotte Rubber Co., Wyandotte, Mich., recently purchased a factory building at Chelsea, Mich., in which machinery is now being installed.

Columbia Cement Moves

The Columbia Cement Co., manufacturers of rubber cement for all purposes, recently removed from 31 Wyckoff Ave. to 150 Ingraham St., Brooklyn, N. Y.

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For Mechanicals (Soft Goods)	RANGER—high tensile stock, remarkable tubing qualities.
(General Line)	BUFFALO and ERIE.
For Tires (Treads)	BUFFALO—clean, low gravity selected tire reclaim.
	BLACK DIAMOND (for highest grade tires) rich in rubber and carbon black—produces a dense stock remarkable for resistance to abrasive wear.
(Frictions)	ELK—TIOGA—Rich in rubber, especially made for this purpose.
Insulated Wire	BUFFALO—low gravity clean stock.
	MOTOR BUFFALO—Where it is desirable to maintain an even gauge and obtain high speed in tubing machines.
Proofing	MATCHLESS—boot and shoe stock, standard for 43 years.
	ONTARIO—mill washed stock for highest grade compounds.
	PIONEER—CENTURY—clean good-working stocks for competitive merchandise.
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SURVEY SHOWS INCREASE IN RECLAIM CONSUMPTION

According to returns so far received in a survey of rubber consumption being made by the Department of Commerce, the use of reclaimed rubber has shown an increase during the first seven months of this year. Indications are that 135,000 tons of reclaimed rubber will be used in 1925. During 1924 production of reclaimed rubber amounted to 67,072 tons, compared to 69,534 tons in 1923 and 54,458 tons in 1922. During the first quarter of 1925 production was 25,353 tons. Figures for the second quarter are expected to show a production in excess of 30,000 tons.

During the first quarter of 1925 73,191,200 pounds of scrap rubber were consumed, nearly 3,000,000 pounds in excess of the consumption for the last three months of 1924. Returns thus far received by the Department of Commerce indicate that no decrease in the consumption of rubber is to be expected, despite the prevailing high price.

Ask Receiver for Mt. Vernon

A creditors' petition was filed in United States District Court at Columbus, Ohio, asking a receiver for the Mt. Vernon Rubber Co., Mt. Vernon, Ohio. The petitions say that the company transferred all its assets and properties to the Union Tire & Rubber Co. on July 25. By so doing, it is alleged, the Mt. Vernon company became insolvent.

IT PAYS TO MICRONIZE

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R. T. VANDERBILT ISSUES NEW TECHNICAL NOTEBOOK

A new and greatly enlarged edition of the loose-leaf notebook containing much technical data and tables of use to the rubber engineer, executive, manager, superintendent, foreman, purchasing agent and others, has just been issued by the R. T. Vanderbilt Co., 50 East 42nd St., New York City.

This edition, the fourth since it was originated by Dr. A. A. Somerville in 1919, contains 110 pages compared with the original of only 10 pages. That this valuable book is appreciated by its recipients is shown by the fact that over 90% of the holders of the edition of 1923 are still using their copies.

It opens with a two year calendar 1925-26, then the Table of Contents divided into three sections, and a page by Dr. Somerville entitled "Looking Forward." The three sections cover Vanderbilt Materials, General Technical Data, Tables, and Abstracts on original articles by a large number of the chemists in the rubber industry.

Sectional matter is differentiated by the use of different colored sheets. The descriptive matter pertaining more directly to the Vanderbilt Materials is printed on Pink paper; Abstracts and original articles by various chemists on white paper; Metric Tables on Blue paper; and General Technical Data on Golden Rod colored paper. Each of these different colors are grouped as a unit.

Kleistone Files Report

The Kleistone Rubber Co., Inc., Warren, R. I., has filed with the Massachusetts Commissioner of Corporations its annual statement of conditions for the year ended Dec. 31, 1924, as follows:

Assets: Office building improvements, $2,186; real estate (garage), $189; machinery, $37,718; furniture, fixtures and tools, $1,904; autos, trucks and teams, $1,825; merchandise, $32,746; notes receivable, $692; accounts receivable, $7,888; cash, $2,018; securities, $800; patent rights, $120,325; preferred items, $1,559; good will, $200,000; treasury preferred stock, $50,000; total, $459,850.

Liabilities: Preferred stock, $50,000; common stock, $320,000; 500 shares without par value, $500; contract liability, $1,972; accounts payable, $16,944; notes payable, $11,819; surplus, $54,176; reserves, $4,439; total, $459,850.

Mohawk Rubber Prosperous

According to a statement made recently by S. S. Miller, president, the Mohawk Rubber Co., Akron, is enjoying excellent business. A dividend of one per cent on the accrued on preferred stock has been declared; this leaves only two percent still due on preferred dividends. Earnings for the first seven months of this year, President Miller said, have been enough to pay the dividends for the year on the seven per cent preferred and all back dividends due on preferred and still leave $2.35 per share on the common.

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PREDICTS 553,600 TONS CONSUMPTION THIS YEAR

(Special to THE RUBBER AGE*)*

In their latest review of the rubber position Charles Hope & Son, London brokers, deal at length with the remarkable increase in consumption. As regards 1925 they state America is not the only country that has absorbed more rubber than expected, Germany in particular having taken more than anticipated. Moreover, apart from the rubber retained, holdings of stocks have been considerably decreased. The firm gives figures of rubber taken by various countries during approximately the first half of this year, and on the assumption that the rate of absorption during the second half of the year remains constant, arrives at a total retention for 1925 of 553,600 tons—an increase of 32 per cent over the absorption in 1924—419,000 tons.

Neither of these figures tell the full story of consumption, however, inasmuch, as the firm points out, that they do not take cognizance of the reductions in stock since the beginning of 1924. Further, the 1925 figure is hypothetical.

Actually, 1924's consumption (when the reduction in stocks was more marked) was about 470,000 tons. Regarding the balloon tire as a factor in the advance of consumption, it is estimated that the life of this type is 10,000 miles, or 4,000 miles less than that of the cord tire. In its general conclusions the review states that if consumption increases at its present rate there is likely to be a severe shortage for years to come, while if, on the other hand, there is a falling off in consumption next year production will be greatly in excess of consumption.

Mohawk Opens Tulsa Branch

The Mohawk Rubber Co., Akron, have opened a sales branch at Tulsa, Okla., in charge of G. I. Windle. Mr. Windle was formerly a salesman of the Kansas City branch. H. S. Flint is office manager; Tom A. Schmitt, special representative; and James Cox, service and shipping department manager.

Victor Refinancing Approved

Directors of the Victor Rubber Co., Springfield, Ohio, at the recent stockholders' meeting recommended the raising of $200,000 for the purpose of reducing the indebtedness and providing working capital for the operation of the plant upon a proper basis. The proposal was approved by the stockholders and the trustees were authorized to take up the refinancing work at once.

The company's financial statement for the last year shows that good progress has been made, that increases in tire sales were made and that sales of other Victor products were satisfactory. For the present the factory will be operated at a fraction of its capacity.

GOODYEAR TO BUILD NEW FIVE STORY WAREHOUSE

Contracts have been let by the Goodyear Tire & Rubber Co., Akron, for the construction of a five story warehouse at Plant 2, near Kelly Ave. It is estimated that the cost of the building and equipment will approximate $750,000.

The floor space of the addition will be 198,580 square feet. It will open into Buildings 61, 62 and 63 and extend 200 feet toward Kelly Avenue.

Additional storage space has been badly needed for some time.

When the peak of production was reached back in 1920 it was generally believed that Goodyear had enough buildings to take care of its needs for many years to come.

However, Goodyear tire sales have increased and the last three months showed the greatest production made in any three-months period in the company's history.

Hood to Open Branch

The Hood Rubber Co., Watertown, Mass., will soon open a branch at Charlotte, N. C., for its footwear products. W. C. Springer, St. Louis district manager, and V. C. Criswell, Atlanta district manager, were in Charlotte recently completing arrangements for the branch which will be located at 216 West First Street.

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HURSH N. J. ZINC ASST. GENERAL SALES MANAGER

Bushnell Bigelow, who since 1920 has been assistant general sales manager of the New Jersey Zinc Sales Co. and who prior to that time was for many years manager of eastern sales of the same company, has become connected with the Treasury Department of the New Jersey Zinc Co. Mr. Bigelow is succeeded in the Sales Department by Robert Hursh.

The new Assistant General Sales Manager became associated with the New Jersey Zinc Co. in 1907, the year following his graduation from the Massachusetts Institute of Technology. Mr. Hursh has been successively assistant engineer in Mexico, 1907-8; manager of the New Jersey Zinc Company's interests in Mexico with headquarters at Monterrey, Mexico, 1908-14; assistant manager of the Colorado activities of the New Jersey Zinc Co., 1915-22, and since 1922 district sales manager of the New Jersey Zinc Sales Co. for the Pacific Coast with headquarters in San Francisco.

Mr. Hursh is a member of the American Institute of Mining & Metallurgical Engineers, American Zinc Institute, The Engineers Club of San Francisco, Berkeley Country Club and Phi Kappa Sigma Fraternity. He is an ardent golfer and trout fisherman.

Estimates Malayan Increase

According to the latest cable advices from Singapore, The Malayan Rubber Controller estimates that the increase in the percentage release of standard production from 65 to 75 will raise the exportable quantity this quarter by 6,800 tons. The effect of raising the maximum assessment from 400 lbs. to 500 lbs. per acre, he estimates, will produce in the present quarter 600 tons only, while the small producers' allowance will yield 900 tons less than last quarter, owing to deductions made in view of the increase in the general percentage of export.

$100,000 Fire at Seiberling

A fierce blaze ignited by spontaneous combustion in piles of cotton fabric wrought $100,000 damage recently at the Barberton plant of Seiberling Rubber Co. The Barberton Fire Department and employees, aided by the fire-proof construction of the factory, and a sprinkler system which worked effectively, subdued the fire after a three hour fight.

Damage was confined largely to the crude materials stored in the fourth floor of Building No. 36. The cotton fabric of the Kemitex Products Co., a subsidiary, suffered the chief loss. The entire crude materials stock of the Kemitex Products Co. was destroyed, although the machinery was undamaged.

Officials state that tire, tube and heel production will not be hampered and that none of the company's 1300 employees will lose employment temporarily. Kemitex window shade production will be resumed within two weeks, as large orders for crude materials are en route to meet the increased production schedules made possible by new Kemitex machinery installed recently.

This unit of the Seiberling plant is of latest fire-proof construction and the factory is not damaged by the blaze. The loss of crude materials, officials state, is covered entirely by insurance.

Hudson in Receivership

The Hudson Tire & Rubber Corp., with a factory on Neperhan Ave., Yonkers, N. Y., was thrown into bankruptcy when Judge Bondy appointed Samuel J. Joseph receiver under $25,000 bond. Liabilities are not stated; assets are approximately $50,000.

DISAPPROVES SALE OF NEW YORK RUBBER CO.

Judge William Bondy in the United States District Court recently refused to confirm the sale of the property of the New York Rubber Co., Beacon, N. Y. The sale was held on August 11. Judge Bondy maintained that the highest bid was inadequate. Only two bids were received. One was made by the Tucker Rubber Co., Buffalo, N. Y., for $50,000 cash and the other by the Quaker City Rubber Co. for $75,000.

To Speak at Convention

F. E. Titus, vice president of the B. F. Goodrich Co., Akron, will be one of the speakers at the fall convention of the Motor & Accessory Manufacturers Assn.

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TO SELL STUDEBAKER PLANT AT WADSWORTH

J. Wilbur Jacoby, trustee in bankruptcy for the Studebaker-Wulff Rubber Co., has been granted an order to sell the factory, equipment and real estate of the company in Wadsworth, Ohio, at private sale within 30 days. The Wadsworth Savings & Trust Co., trustee for the bond holders, has consented to the sale. The order was granted following a hearing in the United States District Court.

The Wadsworth plant has been appraised at $86,798 and cannot be sold for less than three-fourths of that amount or $65,698. As none of the expenses of the sale can be deducted from the selling price, the bondholders will receive about 80 cents on the dollar. The real estate consisting of 18.7 acres is appraised at $5,610; the factory office and power buildings comprising approximately 31,200 square feet, $62,400; garage and blacksmith shop, $500; sprinkler tank, $1,500; gas tank and pump, $50; wells, $500; railroad siding, $1,000; office fixtures, $253; machinery and tools, $10,535; general inventory, $4,449.

Ask Freight Hearing

At the request of the Overland Trail Rubber Co. and the Nebraska Tire & Rubber Co., both located in Omaha, Neb., Examiner A. S. Knowlton of the Interstate Commerce Commission is conducting a hearing in the Omaha Federal Building on crude rubber freight rates. The two rubber companies brought out the fact that the freight rate on crude rubber from the Pacific Coast to the Akron district is 75 cents per hundred pounds. Omaha manufacturers are forced to buy on the New York market and the freight rate from New York to Omaha on crude rubber is $1.25.

Tucker Rubber Prosperous

The Tucker Rubber Corp., Buffalo, N. Y., which has been in business only 18 months, recently issued a report covering shipments for the first six months of 1925. The report shows a gross business of $794,004, compared with $355,351 for the corresponding period last year. Shipments are said to be running from $132,000 to $135,000 monthly but the company expects that they will soon exceed $175,000 monthly. Large quantities of the company's rubber flooring are being shipped to Shanghai, China.

Increase Operating Schedule

The Alice Mill at Woonsocket, R. I., and the Millville, Mass., factories of the United States Rubber Co., which have been operating on a 3 and 4-day a week basis, will return to a five-day a week operating schedule on Sept. 14.

Cumberland Opens Plant

The factory of the Cumberland Rubber Co. on West Mt. Vernon St., Somerset, Ky., was recently opened for the manufacture of rubber gloves.

HOOVER SUGGESTS WAY OF BREAKING MONOPOLY

Secretary Hoover recently intimated that legislation at the next session of Congress would enable importers to combine in making purchases abroad. He declared that the experiences of the past three years justified the recommendations which have already been made by the Department of Commerce for an extension of the combine privilege given by the Webb-Pomerene Act. He cited the recent experience of American consumers with rubber, coffee and other commodities which are controlled at the source by foreign monopolies.

He would leave it to the Federal Trade Commission to determine whether a foreign monopoly existed in a certain commodity warranting the formation of an import combine to protect domestic purchasers. As the Webb-Pomerene Act providing for export combinations is administered by the Commission, this plan would mean a simple extension of the provisions of the law.

Miller Profit $2,048,343

The Miller Rubber Co., Akron, recently reported a net profit of $2,048,343 for the six months ended June 30, 1925, after allowing for all expenses and reserves for charges. After providing for regular dividends on the 8 per cent preferred stock, this was equal to $32.88 a share earned on the 51,868 shares of no par value common stock outstanding.

In the manufacture of red inner tubes a considerable reduction in cost can be obtained by forming the tubes from a tubing machine instead of laminating them on a calender. The tubing machine difficulties can be eliminated by the addition of 1½% of floating Brown Factice to the tube compound.

From—

"The Practical Side of the Use of Factice."

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Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

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R & H RUBBER SERVICE CELEBRATES 8TH YEAR

In the Fall of 1916 the use of modern accelerators first came into existence. That incident brought realization to the Roessler & Hasslacher Chemical Co. of the need of rubber manufacturers for service that would be comprehensive and authoritative.

Accordingly, the R & H Rubber Service Department was established August 17, 1917. This year, then marks the anniversary of the inauguration of a laboratory for serving the needs of the whole rubber trade, conducting research in the interests of the entire rubber industry.

When this Rubber Service Department was formed there was little exact information available to the average rubber manufacturer. His processes suffered accordingly. With the inception of this new idea in service, manufacturers were able to derive the benefits from expert technical men working with every scientific facility.

Much useful knowledge resulting from many thousands of tests has been prepared and given to the rubber trade regarding the behaviour of the commonly used accelerators under varying conditions. On the part of manufacturers these have been made the basis for further experiments to adapt these accelerators to their own compounds.

This department has likewise been of great value in giving direct service to R & H customers. It has offered them a means of solving many knotty accelerator problems which inevitably arise in the manufacture of rubber goods of all classes.

Much of the success of the R & H Rubber Service Department is due to the exceptional attainments of the personnel. The department is composed of experienced rubber men who are intimately acquainted with factory practices and who know rubber from the plantation to the finished article. It is through their efforts that this birthday is the culmination of eight years of successful contact and cooperation with the rubber trade.

The R & H Rubber Service Department is now embarking on its ninth year with an increased force and better facilities. This will insure a continuance of the efficiency which has proven valuable since its inception to the rubber manufacturing and will enable it to maintain its service record due the fact that an increasing number of problems are submitted to its attention for solution.

Smith Named Manager

Maurice C. Smith, Jr., has been appointed factory manager of the National India Rubber Co., Bristol, R. I., to succeed Edward I. Cooper, who was recently appointed assistant to George Schlosser, manager of the footwear factories of the United States Rubber Co. John A. Wahlgren, formerly of Bristol, has been appointed general wire sales manager with headquarters in the New York office.

FURTHER ADVANCES IN BRITISH TIRE PRICES

(Special to THE RUBBER AGE*)*

For the third successive time since the big rise in the price of crude rubber, the Dunlop Rubber Co. of England on August 5 increased the price of automobile tires and inner tubes—the former by 15 per cent and the latter by 20 per cent. Other manufacturers are preparing to follow suit.

On June 29 Dunlop advanced prices of covers by 10 per cent and of tubes by 15, per cent, and intimated there would be further increases if rubber prices were maintained. They have, in fact, increased.

Mason in Good Condition

Stockholders of the Mason Tire & Rubber Co., Kent, Ohio, are said to be well pleased with the progress the company has been making under the direction of President Cluff. The first half of the present year has shown a net profit of $61,941. When this is compared with a loss of $893,000 in 1923 and $48,000 in 1924, the progress made is immediately apparent.

To Move Lee Office

The executive offices of the Lee Tire & Rubber Co. will be removed the latter part of the year, it is reported, from 33 W. Sixtieth St., New York City, to the factory at Conshohocken, Pa.

A TECHNICAL COURSE IN

RUBBER MANUFACTURE

By PROF. H. E. SIMMONS, M. S.

PROFESSOR OF CHEMISTRY IN THE MUNICIPAL UNIVERSITY OF AKRON, OHIO

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RECEIVERS ADVISE QUICK LIQUIDATION OF HODGMAN

As a result of a petition filed by James Newton Gunn and Gordon Auchincloss, permanent equity receivers of the Hodgman Rubber Co., Tuckahoe, N. Y., Judge Augustus N. Hand issued an order to show cause why the assets of the company should not be sold as soon as possible. The hearing was held August 25. At the same time bids were received in Room 3 of the Woolworth Building, New York, for the property which will be put up for sale unless successful arguments against the sale are interposed.

The petition of the permanent receivers, filed on their behalf by Rushmore, Bisbee & Stern, declares that the receivers were appointed temporarily on Sept. 22, 1924, and that their appointment was made permanent Nov. 5.

Since their appointment the receivers have carried on the business of the company, but according to the petition, "said business of the corporation has been run at a continual loss, resulting in the depletion of assets that would otherwise be available for the payment of creditors' claims."

Creditors of the corporation have filed claims totalling $1,300,000, some of which in the opinion of the receivers are subject to reduction.

Numerous conferences have been held between the receivers, the four bank creditors, whose claims total about 60 per cent of the indebtedness, and the merchandise creditors' committee, representing a substantial number of the merchandise claims.

It will be recalled that a merchandise creditors' committee was formed soon after the appointment of the equity receivers. The committee consisted of Frederick B. Schell of Minot, Hooper & Co.; Edward F. Murray, of Wellington, Sears & Co.; John C. Davis of Ridley, Watts & Co.; and Henry Weber of the Garfield Box Co. Allen R. Gardner of the Merchants Protective Association, acted as secretary of this committee, which retained Allen R. Memhard, of Memhard & Trosk as its counsel.

Soon after this committee was chosen to work with the receivers and the banking interests involved, the nominal assets of the company were $2,500,000. It is probable that this figure no longer represents the status of the company, in view of the statment of Receivers Gunn and Auchincloss, that the business had been conducted at a loss.

Following closely the recommendation of the receivers, a sale of the assets of the Hodgman company was ordered by Federal Judge Henry W. Goddard. The sale was ordered with the consent of the Chase National Bank, the Guarantee Trust Co., the Irving Bank-Columbia Trust Co. and the Bank of America.

The receivers were ordered to proceed with the liquidation as soon as possible and to receive bids for the real estate. The financial institutions which held six-tenths of the claims against the company consented to the sale and the other creditors filed consent through a committee.

SEES BRITISH ULTIMATE VICTIMS OF RESTRICTION

That the British planters themselves will be the ultimate victims of restriction is the opinion recently expressed by Edward B. Germain, president of the Dunlop Tire & Rubber Co., Buffalo, N. Y., upon his return from a business trip to England. Restriction, in the opinion of Mr. Germain, will force the world to look to Brazil as a prolific source of supply.

At present the rubber gathering industry in Brazil is in an undeveloped state but could easily be made to yield several times its output. Last year, Mr. Germain pointed out, Brazil produced 24,000 tons of rubber, while the plantations of the Far East, the Malayan peninsula, Sumatra and Java, furnished 400,000 tons.

"British growers," said Mr. Germain, "through restricting their output will gradually force themselves into the position of minority producers, and in the end that may be a good thing for America, since no one foreign country, through artificial laws, could then force a recurrence of the present situation."

Speaking of the Dunlop company, Mr. Germain said that sales are running well ahead of production. "We are turning out 5,500 casings a day and about 6,500 tubes. Of this 40 per cent are balloon. We are also selling about 150 solid tires a day. Two years ago we set a production schedule of 3,200 tires and are now turning out almost double that number."

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AJAX RUBBER REPORTS PROFITS OF $262,394

A report of the Ajax Rubber Co., Inc., and its subsidiaries for the six months ended June 30, 1925, shows net profits of $262,394, after depreciation. Federal taxes, etc., equivalent to 52c a share on the 500,000 shares of no par capital stock outstanding, as compared with $143,517 before Federal taxes, or 31c a share on the 425,000 shares outstanding in the corresponding period a year ago.

The income account for the six months ended June 30 compares as follows:

	1925	1924
Sales	$9,696,213	$7,311,105
Cost of sales, expenses etc.	9,146,088	6,736,117
Mfg. profit	$550,125	$574,988
Misc. income	101,384	59,736
Total income	$651,509	$634,724
Interest and depreciation	330,024	311,602
Net oper. profit	$321,485	$323,122
Federal taxes	59,091	....
Extra adjust.	....	179,605
Prov. for rev. of fin. stock etc.	....	....
Net profits	$262,394	$143,517

The balance sheet as of June 30, 1925, shows current assets of $8,007,566 and current liabilities of $2,207,973, leaving net working capital of $5,799,593 as compared with $4,462,342 as of June 30, 1924.

Seeks to Sell Eastern

Wray C. Arnold, receiver in equity for the Eastern Rubber Co., 2821 Brown St., Philadelphia, Pa., has filed a petition in the United States District Court asking for the approval of an agreement he has made for the sale of the property at 2821 Brown St. to Walter C. and May A. Rieker for $7,500. The property is assessed at $4,100 for taxation and is subject to a first mortgage of $3,000. Appraisers appointed by the court valued the property at $5,500. The receiver stated in his petition that the offer is the best he has received for the real estate, and expressed his opinion that no larger sum could be obtained.

Sale of Bourn Authorized

Permission was recently granted Zenas W. Bliss, receiver for the Bourn Rubber Co., Providence, R. I., to sell the factory and equipment of the company for $150,000, following a hearing before Judge Carpenter in Superior Court.

Rainbow to Start Production

According to C. A. Morrison, secretary of the Rainbow Rubber Co., Delaware, Ohio, all machinery and equipment has been installed in the factory which will soon begin the manufacture of tires, tubes, soles, heels and trusses.

National I.R. Resumes

The National India Rubber Co., Bristol, R. I., a subsidiary of the United States Rubber Co., resumed operations recently in the shoe division on a four-day week following a two weeks' shutdown. Approximately 2,200 operators are employed in the division.

LARGE ATTENDANCE AT RUBBER CLUB OPENING

The Metal & Rubber Club, 23 William St., New York, opened Sept. 1 with a luncheon. The rooms are on the third floor but access to them is gained through 27 William St. On entering the hall, one is impressed by the beauty of the architecture, appointments and lighting.

The first luncheon was well attended and the cuisine received no small amount of praise. The opinion was expressed by several that the next step should be the formation of a rubber exchange, a subject which has been a topic of discussion among members of the trade for some time.

Brown Rubber Incorporated

The Brown Rubber Co., Lafayette, Ind., was recently incorporated with 3,750 shares of common stock of no par value and $75,000 preferred stock. The company will manufacture tires and other rubber products. Incorporators are J. C. Brown, Randolph Mitchell, C. W. Howlett, M. E. Louth and A. I. Epstein.

Rubber Products to Start

According to W. H. Yetman, president, the Rubber Products Co. of America will soon begin operation at Huntington Beach, Cal. The company is said to have a new process for reclaiming rubber which utilizes a great deal more of the scrap on an old tire.

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Predicts End of Monopoly

British efforts to control the world's supply of rubber will be nullified by American development of tropic plantations, predicted Hugh A. MacKellar, Eastern Division manager for the Firestone Tire & Rubber Co., Akron, at a recent meeting of the Rotary Club of Atlantic City, N. J. He said that Harvey Firestone's experiments in Liberia have proved that rubber can be grown on that soil by American capital and that the opening of vast rubber plantations there and in other sections of the world by American planters is certain to come.

Brown Rubber Chartered

The Brown Rubber Co., Lafayette, Ind., capitalized at $78,750, was recently granted a charter of incorporation by Secretary of State Schortemeiser. The new company will take over the Lion Tire & Rubber Co. of Lafayette, according to the petition which was filed.

Servus to Increase Output

Judson J. Adams, president of the Servus Rubber Co., Rock Island, Ill., recently announced that within the next 90 days the company will add 125 hands to its present force in order to bring the production of footwear up to 9,000 pairs a day.

INFORMATION EXCHANGE

The inquiries listed below have already been answered but additional information from our readers will be welcome. Mention the reference number in correspondence.

Vulcanizing Crepe Soles

(Reference No. 159) We would like to have full information of the Peachey Process. We would like to have any information which will assist us in partly or completely vulcanizing natural plantation crepe rubber, most especially using the cold process. We find that natural plantation crepe rubber sheet as it comes from the plantation is a little bit too soft for our use, having a tendency to soften. The soles spread out very shortly after they have been put into use. If we could find some method or some chemical which we could add to this crepe sheeting which would have a tendency to partly vulcanize the outside surface or the total sheet, we believe that we would have a sole which would give much better satisfaction.

We also have another problem. In cutting our soles and heels from this crepe sheet rubber, we have a large accumulation of small pieces which we desire to re-sheet or mold into full soles or heels. We believe there is a method or process by which this waste rubber can be utilized.

"Bineer"

(Reference No. 160) Some factories manufacturing tires use in their mix which contains much carbon black, a product called "Bineer." The product is said to bind the carbon black and renders the tire more flexible. We should like to get in touch with the manufacturers of this "Bineer."

• • •

Rubber Corset Material

(Reference No. 161) Will you kindly furnish us with the names of manufacturers of rubber corset and abdominal bandage material?

• • •

Bead Cutters

(Reference No. 162) We should like to have the names of manufacturers of bead cutters for old tires and machinery for removing rubber from old solid truck tires.

• • •

Coloring Scrap Rubber

(Reference No. 163) Is there any known way to color scrap rubber articles by dipping in dye to obtain a uniform color? The problem is to obtain a uniform color for scrap rubber tubes now having many shades.

• • •

Rubber Switch Handles

(Reference No. 164) We are anxious to secure rubber insulators for high tension switch handles. What we want is a tube of pure rubber, closed at one end, about 10″ long, 1¾″ inside diameter, and with a ⅛″ wall. We would appreciate it if you would put us in touch with a manufacturer who manufactures an article of this character.

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How many of the rubber factories in this country are you 'selling'?

Ten percent? Fifty percent? If so, *The Rubber Age* can help you increase your sales among the balance because it is read by the leading executives, chemists and engineers in practically every rubber factory in this country and Canada - twice every month.

We'll be glad to co-operate with you in every way. Write for full information.

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BRITISH MANUFACTURERS TO PRESENT MANIFESTO

(Special to THE RUBBER AGE*)*

Representatives of fifteen British rubber manufacturers recently met in London to discuss the present price of spot rubber and the immediate forward position of the market. They drew up a statement for presentation to Premier Baldwin, Colonial Secretary Amery, and Sir Philip Cunliffe-Lister, president of the Board of Trade. Regarding restriction, the manifesto states:—

"It appears to us to be the negation of wise government to jeopardize the employment of thousands of workpeople by refusing to consider the immediate modification of a scheme definitely proven to be founded on incorrect statistical estimates. We would desire to emphasize the necessity of the Colonial Office facing facts, rather than, as it appears to us, blindly following interested opinion without regard to economic consequences."

The opinion is expressed that the Stevenson scheme unmodified will result in: (1) a growingly acute shortage of supplies for a few years, which will be naturally gradually terminated by (2) great supplies from countries outside the British Empire from estates financed by foreign interests.

A reply is made to "futile criticism" directed against manufacturers during the operation of the scheme. Regarding the point that any sudden change in the scheme would prejudice some who had made contracts, it is suggested that in all probability the interests prejudiced would be those of speculators. The manifesto concludes:—

"The interests of employment at the present time of industrial stagnation are sufficient to warrant an imperative call on the part of the electorate for the Colonial Office to modify the Stevenson scheme by the introduction of expedients or amendments to the scheme to carry out the expressed intention of the legislature, viz.: a stabilized price for rubber at 1s 3d. (30 cents) per lb."

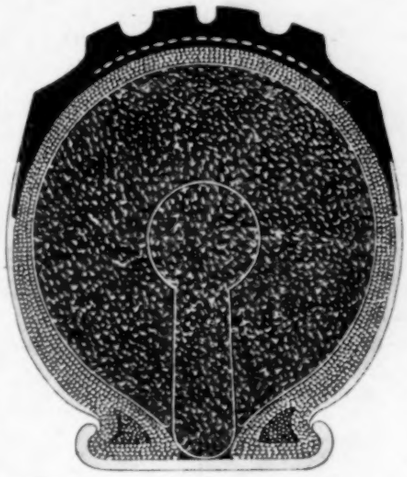
The Rubber Ace

The purchase of all patent and manufacturing rights to the Rubber Ace by the B. F. Goodrich Rubber Co., Akron, as described in our last issue, is considered by many in the rubber industry as an extremely significant step. The Rubber Ace is a specially designed tire filler substituting for the inner tube inflated with air.

The acceptance of the air substitute idea by Goodrich is the first break from the ranks of the standard manufacturers on their position that there would never be an acceptable substitute for air in pneumatic casings. Goodrich may be qualifying its stand by recommending its new acquisition for commercial cars, but even this recommendation does not lessen the importance of their move in acquiring the patent and manufacturing rights to this product.

The Goodrich company reports that an investigation of the Rubber Ace covering every engineering angle revealed so much of a practical value in the idea that they feel very optimistic over its future.

Ever since pneumatic inner tubes have been used there have been numerous futile attempts to invent something to continue the pneumatic principle but avoid the attendant difficulties that will always be imminent with air filled casings. Five years ago a Chicago engineer worked out a principle of injecting air into rubber



Cross Section of the Rubber Ace

and compressing the cured mixture into a casing form. Goodrich engineers followed the development of the invention and studied the results of its application to automobile tires.

The idea successfully carried through the experimental stages and even today there are many of those original tire fillers giving practical service. Investigation of the market possibilities by Goodrich sales executives revealed a definite need in the commercial car field. The Rubber Ace, as it was named by the inventor, provides a resilient effect almost identical to that provided by the high pressure pneumatic when operated at its recommended pressure.

The inner tire actually contains 47 per cent air compressed in millions of tiny cells. The process for compressing the air into the compound was one of the main features of the patent rights bought by Goodrich. This process may no doubt be applicable to the manufacture of other products of rubber.

Sure Foot in Receivership

Judge McPherson recently named Roy P. Funkhouser temporary receiver for the Sure Foot Heel & Rubber Co., Gettysburg, Pa. A permanent receiver will shortly be named. In addition to ordinary claims there is a first mortgage of $7,500 on the building in which the factory is housed, and there are notes outstanding which aggregate $14,700. Interest due on judgments and two years' taxes are liabilities totaling $590. Assets are said to exceed liabilities.

RUBBER SITUATION IS NOT BAD STATES WORK

B. G. Work, president of the B. F. Goodrich Co., Akron, who sailed on the *Majestic* Aug. 22 for a trip abroad, said that the rubber situation is not as bad as the public has been led to believe.

"There has been a great deal of misunderstanding on the part of the public regarding the situation," Mr. Work said. "The question is economic rather than political, although a great many people have tried to drag the question into politics.

"As a result of misleading reports sent out, consumers and dealers have largely overbought rubber supplies in anticipation of higher prices. Consequently this has put from three to four million more tires in the hands of dealers than they have any need for. This oversupply of tires will curtail production the last half of the year. Formerly dealers were inclined to load up manufacturers in the last quarter with spring orders, but that will not be true this year, because dealers already have ample stocks on hand. This curtailing of production will affect the earnings of rubber companies adversely and many companies will not do as well in the last half of the year as in the first half. Very little of the high priced rubber actually went into consumption. The rubber market was a speculative market. The present price of tires is not high enough for the present rubber market, but I don't look for any advance in prices because I anticipate a fall in the crude rubber market.

"Our sales to date have been running ahead of last year since the first of July, but in view of the approaching curtailment I would be more than gratified if we did as well in the last half as we did in the first. In fact, in the face of present conditions it is more than I can hope for."

Gillette Damaged by Fire

Fire starting from an explosion, due, it is believed to spontaneous combustion, recently caused a loss estimated at $500,000 at the factory of the Gillette Rubber Co., Eau Claire, Wis. A majority of the 900 employees of the plant will be thrown out of work for two weeks or more until repairs can be made. The loss is covered by insurance.

Akron Payrolls Decreased

Akron rubber manufacturers cut down their payrolls in 1924 nearly $2,000,000 over the preceding year, according to an industrial survey made of Summit County by the State Department of Industrial Relations.

In 1923, the 30 rubber manufacturers in Akron had a payroll of $72,019,612, while in 1924 the same number of factories paid out wages of $70,372,591.

The total payroll in the county, however, increased in 1924 over 1923. Figures for 1923 were $118,727,008; for 1924, $119,443,031. The number of concerns of all kinds in the county increased from 817 in 1923 to 960 the next year.

CRUDE RUBBER IMPORTS FOR FIRST 6 MONTHS 1925

The following statement shows the imports of crude rubber and related gums, and of scrap and reclaimed rubber into the United States during the first six months of 1925 as issued by the Rubber Division of the Department of Commerce. On account of some small corrections which have been made, some of the figures will be found to differ slightly from those in a previously issued statement covering the same period.

Crude rubber imports, including rubber contained in latex imported, amounted to 192,258 long tons during the half-year. Re-exports were 7,017 long tons and net imports therefore amounted to 185,241 long tons.

During the first six months of 1924, crude rubber imports amounted to 162,253 long tons, re-exports to 5,421 long tons and net imports to 156,832 long tons. The net imports in the first half of 1925 increased 18 per cent over the corresponding period of 1924.

The average declared value per pound of the rubber imported during the first six months of 1924 was $0.24; in the first half of 1925 this figure had increased to $0.344.

The average declared value per pound of the rubber imported each month during the first half of 1925 was as follows:

January	$0.304	April	$0.342
February	0.335	May	0.366
March	0.342	June	0.382

Illinois is Bankrupt

The Illinois Tire & Rubber Co., 2649 Claybourne Ave., Chicago, Ill., has filed a voluntary petition in bankruptcy which lists liabilities at $63,335 and assets at $62,163.

Imports of Crude Rubber and Related Gums and Scrap and Reclaimed Rubber into the United States by Countries, for Six Months Ended June, 1925

	Crude Rubber		Liquid Latex	
From—	*Pounds*	*Dollars*	**Pounds*	*Dollars*
Belgium	411,548	142,119	....	....
France	1,860,297	653,004	....	....
Germany	631,552	260,929	11,180	6,180
Netherlands	855,310	339,545	....	....
United Kingdom	52,684,750	20,834,250	9,396	5,040
Canada	103,050	29,293	....	....
Costa Rica	1,268	558	....	....
Honduras	4,585	711	....	....
Nicaragua	19,945	4,567	....	....
Panama	49,280	13,798	....	....
Brazil	16,502,336	4,822,832	....	....
Chile	68,542	13,615	....	....
Colombia	262,929	71,854	....	....
Ecuador	589,116	160,583	15,000	7,116
Dutch Guiana	25,910	19,808	....	....
Peru	294,381	107,578	....	....
Uruguay	171,101	84,543	....	....
Venezuela	15,822	8,445	....	....
British India	2,233,315	746,514	....	....
Ceylon	31,777,428	11,321,150	....	....
Straits Settlements	240,424,872	81,908,080	514,373	175,744
Java and Madura	38,550,753	12,422,585	....	....
Other Dutch East Indies	38,012,147	12,826,322	3,756,715	804,437
Hongkong	200	80	....	....
Japan	559,600	275,685	....	....
Philippine Islands	105,726	27,871	....	....
Australia	6,940	1,992	....	....
Egypt	2,464	764	....	....
Other French Africa	44,116	12,633	....	....
Liberia	83,545	17,586	....	....
TOTALS	426,352,828	147,129,244	4,306,664	998,517
LONG TONS	190,336		1,923	

*Pounds of dry rubber contained in latex imported; crude rubber content is taken as three pounds per gallon of latex.

	Guayule		Jelutong	
From—	*Pounds*	*Dollars*	*Pounds*	*Dollars*
Mexico	3,363,458	607,849	....	....
Straits Settlements	....	....	7,157,041	748,955
Java and Madura	....	....	873,353	95,838
TOTAL	3,363,458	607,849	8,030,394	844,793
LONG TONS	1,502		3,585	

	Balata		Gutta Percha		Other Crude, Scrap and Reclaimed	
From—	*Pounds*	*Dollars*	*Pounds*	*Dollars*	*Pounds*	*Dollars*
France	14,991	8,837	....	....	224,371	9,947
Germany	....	....	182	106	424,657	24,336
Italy	....	....	....	....	478,619	20,893
Netherlands	....	....	....	....	260,262	19,558
United Kingdom	2,356	1,380	133,762	31,216	909,883	80,417
Canada	....	....	....	....	4,524,117	82,538
Panama	5,680	572	....	....	3,756	93
Other British West Indies	2,200	1,325	....	....	....	....
Cuba	....	....	....	....	21,469	489
Dominican Republic	....	....	....	....	25	3
Brazil	63,056	33,254	....	....	....	....
Colombia	95,970	26,160	....	....	....	....
British Guiana	5,500	3,313	....	....	....	....
Dutch Guiana	34,310	24,253	....	....	....	....
French Guiana	14,816	8,572	....	....	....	....
Peru	38,709	11,860	....	....	....	....
Venezuela	26,302	14,848	....	....	226	20
Straits Settlements	....	....	600,625	94,280	662,545	104,577
Java and Madura	....	....	720,508	109,394	....	....
Other Dutch East Indies	....	....	....	....	56,000	8,350
Australia	....	....	....	....	308	5
TOTAL	303,890	134,374	1,455,077	284,996	7,566,238	351,226
LONG TONS	136		650		....	

OSWALD MOSELEY FAVORS NEW RELEASES OF RUBBER

Oswald Moseley, governing director of David Moseley & Co., rubber manufacturers of Manchester, and a former Conservative member of Parliament now turned Labor, has issued a lengthy statement emphasizing the vital need of the release of further supplies of rubber if employment in the rubber factories is to be maintained. Mr. Moseley, who has served as a member of the Stevenson Committee on the rubber supply, in his statement says:—

"Many factories are short of spot rubber and some are working short time at the present moment, and will shortly have to close down altogether, throwing thousands of workers on the 'dole' (unemployment benefit). The scheme for the release of extra quantities of rubber on payment of 4d. (8 cents) per lb. additional duty is an absolute farce, as the 4d. per lb. has to be paid on the total output and not on the extra quantity, and in practice rubber has only been released on payment of 42c or 1s. (24 cents U. S.) per lb. fine. If the Government does not grant this extra release our Colonies will inevitably take the law into their own hands if we are to be guided by history.

"The Government is thinking of considering the advisability of a further 5 per cent release on November 1, but this will be too late to save the situation; it must be done at once. The restriction scheme was hurried through in a few days and this small extra release (of 5 per cent as asked for by the growers) could easily be dealt with just as quickly."

Norwalk Resumes Dividends

Directors of the Norwalk Tire & Rubber Co., Norwalk, Conn., recently declared a quarterly dividend of 40 cents a share on the common stock, payable Oct. 1 to stockholders of record Sept. 10. This is the first dividend on the common stock since 1920, although the company has an unbroken record on its preferred dividends. An official of the company stated that business continues to show an increase over last year. Sales for the first six months ended June 30 were more than $2,000,000, compared with $1,200,000 in the corresponding period of 1924.

True-Blue to Move Plant

Removal of the True-Blue Rubber Co. from Columbus to Ashley, Ohio, was announced recently by P. M. Sarver, president. The Keltner factory building in Ashley has been purchased by the company and is now being remodeled. The True-Blue company manufactures rubber novelties.

Move Akron Office

The Akron office of H. Muehlstein & Co., Inc., dealers in crude and scrap rubber, has been removed from 614 Metropolitan Building to 1111 Akron Savings & Loan Building.

SULPHUR
FOR THE RUBBER TRADE

"TIRE" BRAND SUPERFINE
Rubber Sulphur
"TUBE" BRAND VELVET
Rubber Sulphur

Specify "Tire" and "Tube" Brands on your orders. This will assure you of Stauffer quality and service.

Stauffer Chemical Co.,
Houston Texas
San Francisco, Cal. Chauncey, N. Y.

What is Tar?

[For answer see our advertisements in the June 25, July 25 Aug. 25, Sept. 25, Oct. 25, Nov. 25 issues of THE RUBBER AGE*].*
Reprints furnished on request.

We can help you find the cheapest tar exactly suited to your needs.

Send us your specifications.

PENSACOLA TAR & TURPENTINE CO.
GULL POINT, FLORIDA

The largest individual producer of distilled pine products

H. MUEHLSTEIN
& COMPANY, Inc.

CRUDE AND SCRAP

RUBBER

"For Service"

NEW YORK - 41 East 42nd St.
AKRON - 111 Savings & Loan Bldg.
CHICAGO - 114 W. Van Buren St.
BOSTON - 176 Federal St.

WAREHOUSES: Jersey City, N. J.

RUBBER HEEL BURRS
FLAT AND CUPPED

Buy the Burrs with

CENTRAL HOLES

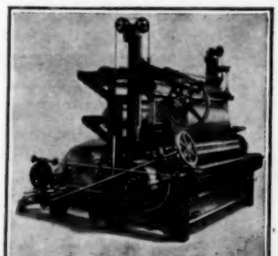
J. H. SESSIONS & SON

279 Riverside Ave., Bristol, Connecticut, U. S. A.

THE MODERN WAY

to make stripping is to cut it on Cameron machines.

¶ These are the standard sources of strip supply, whether you make mechanical rubber goods, hose, adhesive tape, brake lining, belting, footwear, friction tape, tissue, insulating tapes, sheeting, duck, tire flaps, tire wrap, or other rubber goods in strips.



CAMACHINE 10 MODEL 20
This is a heavy duty Cameron Machine for universal service in all the branches of the rubber industry. It is built in sizes to handle webs up to 82 inches wide, winding rolls to a maximum diameter of 36 inches. A liner apparatus for insertion and removal of liner fabric is included.

¶ Let us send you information on the proper machine for *your* needs—mail the coupon!

To Cameron Machine Company, *a*
61 Poplar Street, Brooklyn, New York.

¶ *Send us further information on machines for producing* .....

Firm Name .....
Address .....

The CARTER BELL MFG CO

CARTER BELL STANDARD SINCE 1898 RUBBER SUBSTITUTES

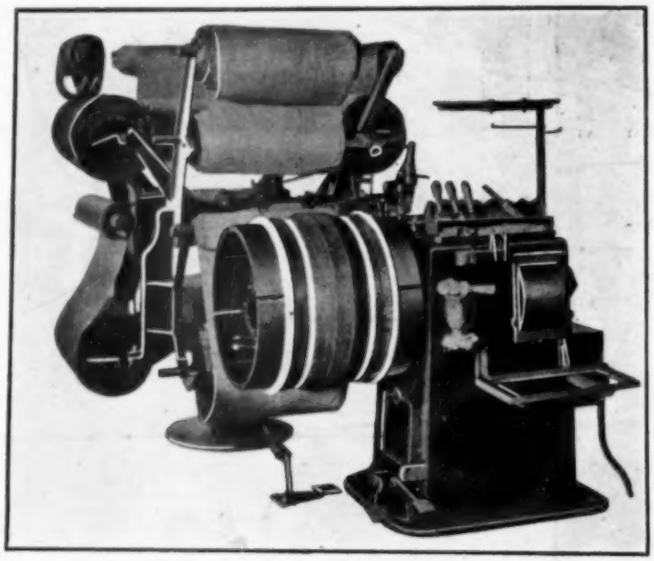
150 Nassau Street New York

FACTORY EQUIPMENT

A PROCESS FOR FLAT BUILDING AND SUCTION SHAPING CORD TIRES

Paul A. Frank, Akron, Ohio, has announced to the trade new units in the process of flat building and suction shaping cord tires which has been perfected by the United States Rubber Co., New York.

The two primary features of the system are that the tire is built in the form of a flat band upon a drum, and that it is given tire shape by applying suction to its outer face, leaving the inner face unobstructed for the insertion of an expansible core. The building of the tire in flat form permits accuracy and uniformity in its construction, as well as economy, and the suction method of shaping the tire preserves its uniformity of structure.



Power Unit with Flat Expanding Segment Drum for Straight Bead Tires

In stock preparation the carcass fabric is either made up in ply lengths and booked, or spliced into long lengths and rolled with a liner for vending from a stock turret at the tire-making machine. The long length fabric permits greater speed in application to the drum and is more convenient to handle. It is easily and rapidly spliced on power-driven roll-up tables, which may be operated in connection with the bias cutter. In this manner an operator can assemble four to five hundred per cent more fabric than when making it into endless bands or double-ply fish-tail lengths by the best-known methods. It is evident that the splicing of single ply fabric is much less expensive, requires less floor space and supplies a stock which is more flexible than a stock of banded or plied fabric.

Flat building also lends itself to the commonly used bead requirements, such as piano wire, flat braids and tapes, it being only necessary that in the preparation of beads for incorporation in flat built tires nothing be done to prevent the bead reinforcement wires from equalizing when the tire is formed. For example, no compound should be in contact with the bead wires if the bead is to be partly vulcanized before incorporation into the tire. If the bead is incorporated "green," the wire reinforcement may be insulated with compound.

The preparation of the tread is about the same for both drum and cord built tires. The tread slab may be tubed or calendered with or without the sidewalls, the cross-section being of such guage as to require no stretching when applied to the carcass. After aging the tread is cut to length. When breaker and cushion strips are employed they are applied on the tread without stretching in proper relation for application as a unit to the carcass.

Clincher tires are built upon solid flat drums. Straight-side tires should be built upon flat drums which can be expanded and collapsed or upon shouldered drums which require only to be collapsible. Rolls of single-ply fabric are mounted upon a turret and arranged consecutively in respect to the plies in the tire. First the tire builder cements the drum where the edges of the first ply will come. The first ply of fabric is attached by hand and is drawn slowly onto the drum by power, no tension being required. At the completion of one revolution the fabric is cut and lapped several cords. In the meantime the stock turret is shifted by pressing a foot pedal. The other under the bead plies are likewise placed and the assembly is rolled. For clincher tires, either skived or endless beads are correctly spaced and set by guide rollers in one revolution of the drum.

In the building of straight-side tires upon a flat expanding drum the drum is set for reception of the under bead plies, with a diameter about 1/32″ less than its later expanded diameter. This permits the beads to be spun over the fabric into proper position without disturbing the fabric, the bead running between guide fingers while the drum is rotated. After so placing the beads, the tire builder stops the drum and by pulling a lever expands it to full diameter, which sets the beads tightly.

In the use of the shouldered type drum, the bead rings are readily placed by hand in the offset groove and then checked for accuracy by guide rollers.

Operation is Simple

After the beads are set, the flipper is rolled and any turn-ups of under plies are made. The over bead plies are applied and rolled in the same manner as the under plies and any turn-unders are made. Then the chafing strips and any gum strips are placed. The tread unit is next applied without tension, as in the case of the fabric. The tread and sidewalls are then stitched, from middle to bead to complete the tire.

In building clincher tires an annular bead guard is preferably used. The guard keeps the fabric from adhering to the heel of the bead, preventing any possibility of the plies bridging the bead clinch and consequently being strained in being stitched into the clinch.

The operation of the vacuum box is extremely simple. A flat tire is set horizontally in the central opening of the box. The vacuum line valve is opened and the tire is instantly drawn outwardly into the box, which causes the beads to move relatively toward each other. A curing bag is then doubled and snapped into the formed tire. With the curing bag inserted the lid of the vacuum box is swung open and the bagged tire removed and rimmed.

J. R. Boyle with India

The India Tire & Rubber Co., Akron, has appointed J. R. Boyle as direct factory representative with headquarters at Erie, Pa. Boyle has spent many years in that territory as the representative of the Goodrich Tire & Rubber Co.

Erie Rubber Resumes

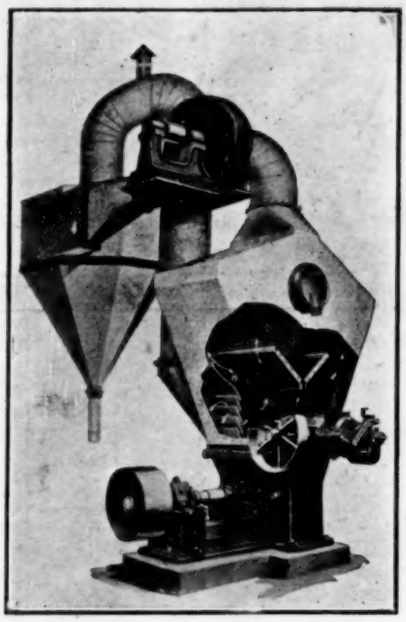
The Erie Rubber Corp., Sandusky, Ohio, resumed operations Sept. 1 after a shutdown for several weeks during which repairs were made and new machinery installed. The factory is for sale as a going company.

THE BONNOT SYSTEM OF GRINDING HARD RUBBER

The Bonnot System for grinding hard rubber in inert gas, employing a high speed mill and progressive collection of dust, perfected by The Bonnet Co., Canton, Ohio, is being distributed by Paul A. Frank, Akron, as agent.

Heretofore, the common practice has been to grind the scrap hard rubber in open, slow speed mills, such as rubber mixing mills and refiners. The production of hard rubber dust in this way is slow, with a considerable loss of material, equipment is expensive, maintenance is high and power consumption is a big factor. The workman is subjected to discomfort because of the permeation of the air by the finely divided rubber and gases evolved in the grinding, and there is an almost unavoidable danger of explosion due to the highly inflammable character of the dust.

The grinding of hard rubber is facilitated by heat and to a certain extent the frictional heat evolved in the open, slow speed mill has been utilized for this purpose, but the temperatures obtained in the rubber at the instant it is ground have been comparatively low and have widely varied. Moreover, the temperature has been purposely kept low, by circulating water in the rolls, to reduce the fire and explosion hazard. Because of the strength of hard rubber against crushing forces, it has also been considered necessary to pass it between grinding rolls held together by positive



Bonnot Mill with Separator and Collector

mechanical means. Even with the tightest setting of the rolls it has been necessary to pass the hard rubber through the mill several times and then to screen the product in order to obtain dust of the desired fineness in substantial quantity.

The Bonnot System employs a high speed mill having rolls adapted to act upon the hard rubber dust under their own centrifugal force, and apparatus connected with the mill for progressive separation and collection of the dust, all operations being conducted in a closed circuit of inert gas.

Rubber is Kept in Motion

Provision is made for keeping the charge of hard rubber in the mill in motion, so as to disperse locally heated portions of the charge. An even temperatured current of inert gases is circulated through the mill, whereby the temperature of the charge may be closely regulated and the finely ground material carried away. Provision is made for conducting a heating or cooling fluid in close proximity to the grinding elements of the mill so as to regulate the temperature to provide the best heat conditions for rapid production and at the same time prevent local generation of excessive heat by the grinding elements. Devices are provided for collecting the dust from the current of inert gas by which it is carried from the mill in the closed circuit, and the pressure of the inert gas within the mill and conduits can be maintained slightly higher than at atmospheric pressure so as to avoid the formation of an explosive mixture by leakage of air into the system.

The operation of the system is continuous and automatic, the operator being required only to remove the finished product, and as the system is substantially closed, objectionable dust in the atmosphere about the apparatus is avoided.

How Should Rubber be Dried ?

The Rubber Shortage demands economy in crude and reclaim preparation.

Carrier Drying Systems,

including the well known Hunter Process, produce uninjured and uniformly dried stock. These Systems assure reduction in time, space, labor and milling costs.

Write for details.

Carrier Engineering Corporation

Offices and Laboratories
750 Frelinghuysen Ave., Newark, N. J.

"WHITE FLOSS"

CLAY

WATER GROUND WATER FLOATED

Highest Test for the Rubber Trade

IN

Gravity — Fineness — Abrasion — Hardness — Tensile Strength — Moisture Content (practically bone dry) — Absolute Uniformity.

Will Save You Zinc On Account Of Its Extreme Fineness

See Report of BUREAU OF MINES on Georgia Clays.

The HARSHAW FULLER & GOODWIN Co.

CLEVELAND, OHIO

SALES AGENTS
for
THE AKRON PIGMENT COMPANY
CARTERSVILLE, GA.

Stocks Carried at

Cleveland, O. McIntyre, Ga.

Medicine in the Rubber Industry

Installation of Medical Service Department Goes a Long Way Towards Promoting Peace and Prosperity Among Workers

By Frederic C. Hood
President Hood Rubber Co., Watertown, Mass.

BY the 1921 census there are 196,267 manufacturing establishments in this country employing a total of 6,946,570 employes, an average of about 35 employes to the establishment.

Of this number 1241 establishments have an average roll of 500 to 1000 employes, employing altogether 858,000. 845 establishments have an average roll of more than a thousand employes and employ 1,367,000.

The census does not give us statistics on the number of establishments employing over 5000 persons, but our guess is that there are about 400 establishments having over 5000 employes.

There is hardly a single establishment out of this group of 400 that does not have a full time physician on its regular staff, and at least 50 per cent of the 1241 establishments having an average of 500 to 1000 employes have a full time physician on their staffs. Frankly, I would not know how to manage a factory without a physician on the staff.

Men Are More Important than Machinery

Every factory must have a maintenance crew to keep its machinery, its equipment and its buildings in shape to function. Human beings manage these material things. Is it not much more important to keep human beings in shape to function than the material things they manage? A machine needs constant inspection, oiling and repairing as it wears out. But it does not go out nights. Human beings manage themselves; and the job of management is to create in employes an interest to keep themselves in shape to function, both for the sake of themselves and the enterprise.

No policy is worthy of adoption unless it benefits the other fellow—whether the other fellow be an employe, a neighbor, a customer, or the ultimate consumer. We or they can't work efficiently with a toothache. We or they can't inspect goods with defective eyes and there are 50 per cent of you here in this room wearing glasses.

The Hood Rubber Company first established its hospital in 1899 and in 1911 set up the basis for its present medical department. In 1912, we had 4000 employes and there were 10,000 hospital contacts. In 1924, we had 8000 employes and there were 100,000 medical contacts—twice the number of employes, but ten times the number of calls. To those of you who are interested, I will send, on request, a paper presented before the American Management Association in January, 1925, "A Manual of Industrial Medicine," by Dr. Robert S. Quinby, who is the head of the medical service department in the Hood Rubber Company. I will read to you portions of that manual.

Problems of Health Supervision

"The purpose of this manual is to acquaint business executives with generally accepted methods of dealing with problems of health supervision in industry.

"No attempt is made to include untried or unaccepted practices, but rather to bring together in brief form methods that have stood the test of time and are in daily usage in a great many plants throughout the country.

"Much of the contents of this manual has appeared in print at one time or another. It is not possible, in all cases, to give credit of authorship, but it should be stated that most of such credit should be given to a relatively few far-sighted physicians in industry who, during the last decade, have been fortunate enough to affiliate with industrial managers who have seen the opportunity for and wisdom of conserving the health of their workers.

"Such pioneers have built a sound foundation for a relatively new specialty in the practice of medicine. It merits the title of a specialty not so much because of peculiar methods in the practice of medicine as because of the changed conditions under which industrial medicine is practiced.

"In industry, the work is primarily preventive and secondarily curative—the reverse of ordinary practice. In industry, a great number of individuals under similar conditions may be made subject to certain procedures impracticable in ordinary practice. The necessary element of commercialism in private practice is no longer involved. Other economic considerations are substituted and so there are a multitude of changed conditions, points of view and organization relationships which, in themselves, create in industrial medicine a specialty, despite the fact that essentially the same methods of medical surgical procedure prevail.

Definition of Physician

"So comprehensive and lucid is the definition of a physician in industry and his responsibilities formulated by the conference board of physicians in industry that it properly occupies the forefront of this manual."

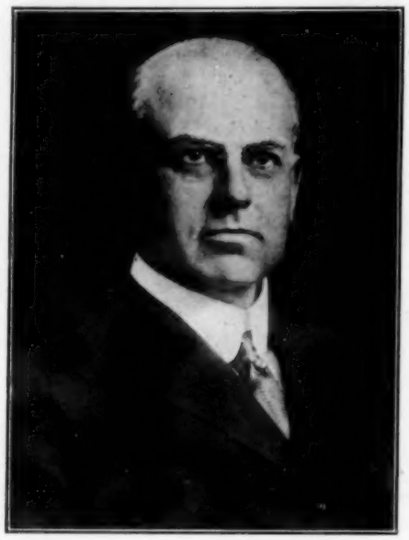
That definition follows:

"The physician in industry is one who applies the principles of modern medicine and surgery to the industrial worker, sick or well, supplementing the remedial agencies of medicine by the sound application of hygiene, sanitation and accident prevention; and who in addition, has an adequate and co-operative appreciation of the social, economic and administrative problems and responsibilities of industry in its relation to society."

This definition gives the outline for the manual. The application of the principles of modern medicine and surgery to the industrial worker, whether sick or well, gives us two main and fundamental divisions of industrial medicine.

1. Physical examination.
2. Remedial treatments.

"Supplementing the remedial agencies of medicine by the



That the welfare of employees should be considered by every rubber manufacturer is the opinion expressed in this article by Frederic C. Hood. He believes men are of far more importance than machines.

Address made at Rotary Club meeting, July 29, 1925 at Bedford, Mass.

sound application of hygiene, sanitation and accident prevention"—gives us a division of

3. Safety and sanitation.

"An adequate and co-operative appreciation of the social, economic and administrative problems and responsibilities of industry in its relation to society"—gives us a broad division which may be called

4. Medical sociology.

So the manual treats there four main divisions in considerable detail:

"1. Physical examination.
"2. Remedial treatment.
"3. Safety and sanitation.
"4. Medical sociology."

Physical examinations are made at various times

"1. To ascertain the exact physical condition of each employee at the time he is hired.

"2. To use the knowledge thus obtained:

(a) To place workers in jobs for which they are physically fitted.

(b) To prevent contagious diseases being introduced into the factory.

(c) To prevent workers entering the factory who, because of their physical condition, would be a danger to themselves, to others, or to property.

(d) To use the information obtained as a basis for future medical work.

"3. To prevent workers being transferred from work for which they are physically fitted, to work for which they are not, and to transfer workers to work for which they are fitted.

"4. By periodic re-examination, to prevent development of incipient chronic disease to whatever extent this is possible.

"Through such examinations, workers may be classified as:

"Type A: Those physically fitted for any employment.

"Type B: Those fitted for any employment but having minor physical defects.

"Type C: Those having more important physical defects rendering them fitted for work in only certain occupations.

"Type D: Those physically unfit for any employment in the particular plant."

Programme of Re-Examinations

"As in every enterprise, there is not only the original creative work but the job of maintenance as well. This takes the form of re-examinations for the purpose of checking up existing conditions, or of discovering the development of new conditions. A desirable programme of re-examination may be pursued among the following divisions of the personnel:

1. The management.
2. Sub-standard workers.
3. Workers exposed to industrial hazards.
4. The remaining employed group.

"The management, being the most vital to the success of the concern, offers the most fertile field for constructive health work. The most important members should be examined every six months and the entire management yearly, and the necessary preventive and reconstructive treatments instituted."

On remedial treatments, I quote the manual regarding dispensary locations:

"Regardless of the size of the plant and the scope of medical work contemplated, the location of the dispensary is important. The main dispensary should be located centrally to the population of the plant. If the plant is large, or the buildings widely separated, branch dispensaries should be established at such points as to make them readily accessible to the working forces. Workers will repeatedly disregard trivial sicknesses or minor injuries because "it takes too much time to go to the hospital," whereas, if located nearby, they will be properly cared for.

"These seemingly trivial conditions are frequently most important because of their complications and the serious injury or sickness will be sure to receive attention anyway.

I think I ought to read to you the scope of these remedial treatments.

"It is now generally conceded that the functions of the industrial clinic properly include the following:

"1. A clearing house for any sort of medical problem.

"2. First aid treatment of accidental injuries and frequently the completed treatment of ambulatory cases.

"3. The treatment of ordinary illnesses occurring during working hours and the continued treatment of such conditions as enable the employee to stay at work.

"4. If facilities permit, the treatment of dental, ocular, nose, throat and ear conditions. At least temporary treatment may be given and advice toward the final disposition of the case.

"5. Rehabilitation and follow-up as a result of physical examination findings.

"6. The early recognition and control of contagious conditions.

"7. Appropriate preventive and remedial treatments for occupational diseases.

"8. Diagnostic clinic.

"9. Investigation of absentees due to illness or accident, and follow-up of disabled cases.

"10. Adequate records of accomplishments."

It may surprise you to know that over ninety (90) per cent of the medical contracts have no connection with strictly manufacturing hazards. On the staff of the medical department are four physicians; two dentists; one oculist; and six nurses.

Purpose of Service Department

The Hood Rubber Company carries on many other personnel activities through the Service Department, of which the Medical Department is a part. The purpose of the Service Department is "to create and maintain a healthy, efficient, stabilized body of workmen" and is carried on under five main divisions, which are:

1. Employment.
2. Health.
3. Safety and sanitation.
4. Education.
5. General service.

Certain of these activities are apparent from the titles of the divisions. Some others may be briefly enumerated.

This department also adminsters the Hood Rubber Company Benefit Plan which was adopted Jan. 1, 1919, and pays sickness and death benefits to our employees.

The cost of this plan is borne entirely by the company. Its title page reads:

"This plan is another effort toward prevention of ill health, as well as relief of financial burdens in unavoidable cases." The company regards the health and welfare of all its employees as one of the foundations of a prosperous concern.

Restaurant service is furnished at cost to such of our workers as wish to avail themselves of it.

The company offers numerous attractive facilities to encourage thrift and financial protection among its employees, and furnishes them with free legal advice and certain opportunities to secure loans as conditions necessitate and justify.

Efforts are constantly being developed to offer individuals in our employ opportunity for self-development through various educational arrangements.

We do not believe in the relation of landlord and tenant in addition to the relation of employer and employee. Our nurses do assist our employees in their homes, when by helping members of the family it will assist the employee to return to work; and our Medical Department cooperates with various agents to this end.

To me, the importance of a Medical Service Department of this kind lies in the fact that it opens up many points of contact with each employee.

The old order of things made the foreman the boss, and if the foreman was incompetent, labor troubles naturally ensued. Here, we have a relation with our employees that is not only the employment relation, but a health relation. We have also a financial relation; we have a relation that insures him his work and proper pay so that the employee knows that he is not dependent upon the caprice of any foreman for the insurance of his earnings.

In passing, I would like to mention that we have given

much time and attention to the payment of wages to clerical workers and salaried workers and that we have developed over the period of the past ten years, a system of rating, especially for clerical workers, that has benefited both the workers and the company.

Results of Medical Service

In conclusion, I will give you some definite results of our Medical Service Department.

Through this department, our Workmen's Compensation Liability is administered by our own Arrow Mutual Liability Insurance Company. The cost of this liability insurance was reduced from sixty thousand dollars ($60,000) five years ago to less than fifteen thousand dollars ($15,000) last year.

Over a period of six years, our group of factory workers, averaging over 6000 of which about one-third were women, have lost only 5 per cent of the working time, or 15 days of work yearly.

Females lost nearly twice as much as males, which makes these figures rather higher than they would be in a plant employing only men.

In 1923, the experience of 12 plants employing a total of about 25,000 persons and reported through the United States Public Health service, showed that 525 males in every 1000 were disabled by sickness or non-industrial accident over two days, while the Hood Rubber Company had only 342 cases per 1000, or 183 less per 1000 cases of sickness during the year than the average of the group. Of course our factory being a part of the group brought down the average. We cannot have production without attendance, and we can't have attendance without health.

This Medical Service Department, together with our sickness benefit plan, our system of wage payments, our system of rating many of the employees, the ownership of shares of our capital stock by many hundreds of employees, and the frequent contacts, (medical, employment and financial) all have helped to make both employer and employee understand the viewpoints and problems of the other, and so-called labor trouble in our plant is as unknown as it is unexpected—but to the medical service department, I give the largest measure of credit in attaining this much desired result.

The chief executive of the modern factory realizes that the Golden Rule, to work at all, must work both ways.

Economies Resulting from the Use of Listed Standard Bevel Gears

Two of the most important items in the cost of small quantities of bevel gears are pattern charge and drafting-room expense or the cost of entering the shop order with the necessary information to properly execute the order. Each pair of gears requires a sketch or drawing showing outside diameters, face angles, edge angles, back angles, cutting angles, hub length and backing of each gear and pinion. Patterns also must usually be made unless standard listed gears are used.

Even if a manufacturer has several thousand well assorted bevel gear blank patterns, it would be safe to say that in not more than one instance out of ten could existing equipment be used without alteration.

This may be better understood when we analyze the pattern situation more closely. Bevel gears mesh correctly in pairs only. Consider for example a 16 tooth pinion mating with a 48 tooth gear with ratio of 3 to 1. If the number of teeth in the pinion be increased or decreased it will change the angles of the mating gear.

As a matter of actual practice, if a pattern be made for the above pair of gears, it would probably be usable for the same number of teeth (48) of the same pitch and face to mesh with a pinion having one or possibly two teeth more or less than 16. However, a very careful check of the pattern would have to be made to determine this. From this it will be noted that to carry the necessary patterns for all combinations of bevel gears would be impossible.

By selecting listed bevel gears practically all of this expense is eliminated. Patterns are made and are used frequently. Complete drawings are kept on file. The saving of time as well as expense in executing an order is still further increased.

In most installations, bevel gears form only part of the reduction in speed. In fact, it might even be said that they are usually the second or third reduction, the first frequently being made by means of pulleys or spur gears.

For example if a total reduction of 12½ to 1 must be had involving a bevel gear drive, it will be found advisable to commence with a standard listed pair of bevel gears, say 2½ or 3 to 1 for the second reduction, and make the first reduction by means of spur gears or pulleys.

It is usually much more economical to use rather small ratios of bevel gears, making most of the reduction where possible by spur gears. Bevel gears are much more expensive than spur gears, even if standard listed sizes are used. A bevel gear is not only more expensive than a spur gear when the pitch diameter, face and pitch are equal, but also the bevel gear will only transmit about three-quarters of the horsepower of a corresponding size spur gear. This increases the cost per horsepower still more, making the cost of bevel gears approximately twice the cost of spur gears figured on a cost per horsepower basis.

Reducing Costs by Way of the Shipping Department

An effective method for cost reducing has recently been introduced, and is finding more favor daily in our industry. This method is based upon the better packaging and shipping of our product.

The problem of better packaging has been very much overcome by the use of the solid fibre box. Its advantages are manifold. Some of the outstanding features in its favor are:

1. It saves money. It is cheaper than wood and just as durable.
2. It saves space. Several hundred cartons can be stored in the space required for one "set-up" box. In our industry where manufacturing space is so necessary, it means storage space reduced for the benefit of more and better machines; or the elimination of crowded floor space, thus resulting in larger output of our products.
3. It saves time and labor. Sealing solid fibre cartons is a less laborious process than hammering, nailing, and strapping wooden cases.
4. Freight shipments can be made in individual containers from one to ninety pounds, thus establishing more and better packing units.

There are many other added important advantages that come from the use of fibre boxes, such as the advertising value of good printing in several colors, etc.

The Brooklyn Fibre Syndicate, Inc., situated at Decatur Street and Irving Avenue, Brooklyn, N. Y., welcomes an opportunity to quote prices and submit samples. They are ready to help you with your shipping problem at no charge for the service. Their factory is modern and well manned. They boast of quick deliveries, exacting service and the application of the same painstaking care in the execution of small orders as well as large.

They have a department designed for the handling of small, rush and special orders, and count among their satisfied customers some of the largest firms in our industry.

Their experimental department is constantly engaged in perfecting containers for the packaging and shipping of rubber products.

What Restriction Was Supposed to Do!

IT may be of interest to our readers to look backward and see what a leading London rubber firm predicted as the result of rubber restriction in a statement issued back in October, 1922, shortly after the enactment of the Stevenson Restriction Act.

This statement was originally published in THE RUBBER AGE on November 10, 1922, and is reprinted here so that executives of rubber factories may check up the predictions made at that time with what has actually happened to the rubber market since then. The statement that restriction was intended to stabilize the price of ribbed smoked sheet at 15 pence will, no doubt, cause a few smiles and many groans.

Analysis of the Proposed Restriction of Rubber Production and a Survey of the Probable Consequences Following the Adoption of the Scheme

Section 1—Precise of the Scheme

1. It is intended to stabilize the price of standard ribbed smoked sheets, landed London terms, in the neighborhood of 15 pence.
2. To commence with, every estate under the British flag will be restricted by law to 60 per cent of its production during the period November 1, 1919, and October 31st, 1920.
3. This 60 per cent will be modified according to the price obtainable. So long as the price remains below 15 pence it will be reduced by 5 per cent every three months. When the price rises to 15 pence or above it will be increased by 5 per cent for every rise of 3 pence. This will permit 100 per cent production only when the price reaches 3 shillings.
4. Once the exportable percentage has been reduced it will not be increased again unless the price reaches 15 pence and then only in stages of 5 per cent, e.g., the percentage permitted is 50 per cent. If the price rises to 15 pence the percentage is increased to 55 per cent, not to 65 per cent.
5. The penalties payable on the whole of its output, in the event of over-production, are so prohibitive that it can never pay an estate to exceed its allotment.
6. The Secretary of State for the Colonies will have the power to alter quarterly the percentages stated above. Discussion and delay will thereby be avoided.
7. The majority of British rubber growers owning estates outside the British Empire have given an assurance that they will restrict their output to correspond with the percentages permitted. In the subjoined observations this has not been taken into consideration.

Section 2—Probable Cansequences

1. The Committee has estimated the world's consumption at 300,000 tons annually. From the latest figures a conservative estimate can safely put the figures at 330,000 tons for 1923.
2. Regarding the production, a full estimate would be 240,000 tons for 1923, apportioned as follows: British, 151,000 (60 per cent of 252,000); Dutch, 64,000; others, 25,000; total 240,000 tons.
3. The price will increase or decrease this quantity by 5 per cent equal to 12,600 tons for every rise or fall of 3 pence from the mean of 15 pence. A price of 3 shillings will therefore produce 252,000 tons again from British possession.
4. It can safely be assumed that taking the present world's stock into consideration, next year's consumption will be just covered and no more. Very much higher prices, therefore, seem to be inevitable. From this it naturally follows that estates will be extremely loath to sell forward, because—
   (a) They have already sold a fair amount of low prices and will want to average this by dearer sales. (Some may even go so far as to buy in their cheap sales at a small loss in order to be in a postion to produce their full allotment, and to sell it at the very much higher prices of the future).
   (b) Of the uncertainty as to further restrictions in the event of the price remaining below 15 pence.
5. Forward business in general will therefore be difficult for some time to come.
6. The consideration which emerges very definitely from a perusal of the committee's report is, that the price must reach 15 pence in the near future, as further and further restrictions will be imposed until it does.
7. The principal aim of the scheme is a method of providing revenue for the states concerned.
   (a) Directly by the penny per pound export duty.
   (b) Indirectly by the ability to pay income tax on the part of prosperous and paying estates.

TECHNICAL ABSTRACTS

Crystallization of Rubber Under High Tension

For some time Dr. Katz of Amsterdam has been conducting Röntgen spectographic investigations on Hevea caoutchouc. Unstretched caoutchouc shows, at least if warmed shortly beforehand, plasticized or vulcanized warm, the Röntgen spectrum of an amorphous substance such as a liquid or glass. Up to a certain critical degree of tension—in the case of the unvulcanized Hevea caoutchouc investigated by Katz about 100% extension—the Röntgen spectrum of this substance remains an amorphous ring. From there on arise, along with the amorphous ring, crystal interferences, sharp pointed interferences similar to those produced by true crystals. The greater the extension so much greater becomes the intensity of the crystal interferences compared with that of the amorphous ring. Highly stretched caoutchouc threads give such intense crystal interferences that it may be assumed that they consist to a marked degree of crystals. At any rate the Röntgen spectrographic investigation of caoutchouc offers promise of an explanation of the cause of its properties of elasticity, the action of inorganic admixtures, of vulcanization and of the differences between the natural and the synthetic product. The latter gives under tension an apparently quite different Röntgen spectrogram from the natural caoutchouc. (*Industrial and Engineering Chemistry*, June 20, 1925)

Crystallized Rubber and Hydro-Rubber

Rubber is purified by dissolving the same in benzine and then fractionally precipitating with the aid of alcohol, then extracting with the aid of acetone, fractional precipitation in hexahydrotoluene with acetone, treatment in a solution with petroleum ether by means of a solution of potassium hydroxide in methanol and agitation of the ethereal solution with charcoal, all of the operations being carried out in the absence of air. Finally the rubber is obtained in the crystallized state. The presence of these types of crystals in six modifications indicates the existence of several chemical entities in the purified rubber. The crystallized product is practical non-elastic.

VULCANIZATION & ACCELERATORS

By Andre Dubosc

PART II (*CONTINUED*)

Natural and Mineral Accelerators

Additional Conclusions Reached by Spence as a Result of his Experiments on the Acceleration of Vulcanization—The Properties that Should Be Present in the Most Effective Accelerators

IN the last issue Andre Dubosc discussed the first conclusion drawn from the experiments performed by Spence. It was determined that the superior qualities of certain crude rubbers is not all due to the quality of the pure rubber itself but the presence of impurities. Other conclusions follow:

"2. The acetone extract which is obtained by treating commercial types of rubber, particularly para rubber, with acetone, contains in addition to the resinous matters which form the major part of the solid ingredients of the extract certain nitrogenous substances which are possessed of a slight alkaline reaction and which give all the reactions and have all the characteristics of an organic alkaloid. (At the time that Spence wrote this remark these nitrogenous substances had not yet been identified. The characteristics and properties of the alkaloids were the only ones that had been definitely established).

"We have found that these organic nitrogenous substances, which were present in one form or another in para rubber, give certain characteristic qualities to the rubber from the standpoint of vulcanization, when they are added to gums which are known to be of inferior quality and which vulcanize poorly.

"These nitrogenous substances, which are found in para rubber and in smaller proportions in other rubbers as well, may be considered from the standpoint of vulcanization as the *active principle of crude rubber.*

"What then is the content of the active principle in para rubber?

"We have not been able to determine it in a very exact fashion up to the present time but it has been approximately estimated to vary between one-tenth to one per cent.

Function of the Active Principle

"3. The function of this active principle of crude rubber, which makes it possible to obtain a more rapid and more effective vulcanization, is complicated. This substance acts essentially in the nature of a catalyst and has the power of accelerating to an enormous degree the rapidity of the reaction between the rubber molecule and the sulphur. This fact has been established in an indisputable manner by drawing the curves which show the relation between the degree of vulcanization and the time required to accomplish the same, when vulcanizing rubber which has been freed from all impurities, and when adding the active principle when omitting it or when adding substances which are analogous in properties and character to the active principle.

"4. Certain organic substances, which possess properties and partake in reactions similar to those of the active principle, may replace it, as a vitalizer in the reaction that takes place between rubber and sulphur. Thus when one per cent of a well known alkaloid, quinine, is added to a mixture which contains one hundred parts of purified rubber and eight parts of sulphur, the reaction between the rubber gum and the sulphur is activated to such an extent that the time that is required for effecting good vulcanization under a pressure of forty pounds per square inch at a temperature of 141 degrees is reduced from five hours, when no quinine is present in the rubber mixture, to twenty-five minutes when the alkaloid is present. The physical properties of the vulcanized product that is obtained with the aid of quinine are also materially enhanced.

Any Number of Organic Substances Available

"5. The number of organic substances which can be employed as substitutes for the active principle of crude rubber is limitless.

"It is possible to employ the derivatives of these substances as well as their organo-metallic combinations. For although these substances differ very considerably in composition, they all possess the same property of acting as a catalyst in vulcanization. We have also found that the catalytic power of these substances varies in accordance with their composition and with the arrangement of the active groups in the molecule. When the structure of these organic compounds is changed or when the active groups are rearranged in the molecule, which can be accomplished by means of methods which are well known in organic chemistry, it is always possible to obtain the effect which is desired.

For example we have established the fact that paraphenetidine is an accelerator, which possesses considerable potency, but that the ortho compound has only little value as an accelerator of vulcanization due to its feeble powers along these lines. Then again it has been found that para-aminophenol is a catalyst of weak powers, but its potency may be considerably increased if it is converted into another organic compound, aminophenetole. In the same manner the accelerating activity of diphenylurea is only very small when compared with that of its derivative tetramethyldiaminodiphenylthiourea.

Among the organic substances which are possessed of the power to act directly as catalysts in the vulcanization of rubber there may also be mentioned the following: aniline, paraphenetidine, piperidine and quinine.

Inorganic Derivatives

As examples of derivatives of organic substances in which there are found inorganic radicles or of metallo-organic substances capable of acting as vitalyzers, mention of alkylated derivates of lead and of mercury, as well as the oleates of sodium and of lead may be made.

The basic principle which underlies vulcanization with sulphur was therefore unknown for a long time and it was believed for many years that vulcanization was a simple chemical reaction. It is however a catalytic phenomenon and the success which it has attained in an industrial way has been

so perfect just because of the fact that it possesses a catalytic nature.

On the other hand it is known that the action of litharge on vulcanization has been fairly well understood. This mineral substance was employed for quite a long time. It was used in large proportions in the rubber mixture because of the fact that it had an accelerating action on the vulcanizing reactions.

Effect of Litharge and Magnesia

It is also rather well known that magnesia, as can be shown by the work that has been done on this subject by Weber and Henriques, possesses similar properties as litharge. The experiments carried on by Henriques on this subject gave results which seem to indicate that the facility with which virgin rubber is vulcanized is a function of the ash content of the rubber and on the proportion of alkaline earth compounds that are found in this ash. This point of view is generally held to be admissible and it is in fact from the observations that Henriques has made on this subject that the use of magnesia as an accelerator of vulcanization is based. Although we have not employed this substance for the purpose of accelerating vulcanization, nevertheless we have attained results which are similar to those obtained above by using other methods.

These two mineral substances are incapable of modifying in any way the physical characteristics of the vulcanized product, although they do have an effect on the rapidity of vulcanization. Thus the changes brought about by the use of organi accelerators are not obtained in this case. However the addition of organic acceelerators to mixtures which already contain litharge and magnesia has the effect of changing the physical properties of the vulcanized product only insofar as its resistance to rupture and the degree of elongation are concerned. This very clear distinction, which exists between the mineral accelerators of vulcanization and the organic accelerators is very sharply defined. The mineral accelerators have the effect only of diminishing the time consumed in the vulcanizing process, but the organic accelerators not only increase the speed of the reaction taking place between sulphur and the rubber molecule, but they also improve the qualities and characteristics of the vulcanized product. Such is the difference which is clearly stated by Spence in his publications, and this in fact constitutes a discovery of the greatest importance as far as the progress of the rubber industry has been concerned.

Spence the Pioneer

It is the deep study of the protein substances found in rubber and of the products obtained by their decomposition that have formed the basis of the great work done by Spence on the acceleration of vulcanization. Hence it has not been a mere happy chance, as that which lead the chemists of the Bayer company to the use of piperidine. For these reasons it is only just that Spence, the great savant, should be considered as the real discoverer of the process of accelerating vulcanization.

"At the present time," continues Spence, "I will not lay any emphasis on the various discoveries which I have made nor on the six examples which I have given in the article that I have prepared on this subject, examples which define very clearly all the conditions under which accelerators of vulcanization are employed in the rubber process as well as the composition of the various accelerators according to the class to which they belong.

"It remains to be observed that certain of these reagents are solids and are more difficult to manipulate, that is work in with the rubber, than others. Thus there may be mentioned the compound nitroso-dimethylaniline, which gives a variety of colored products. Certain others of these vulcanization accelerators are difficult to use in practical vulcanization for the reason that they possess a bad odor and furthermore because of their toxic character.

"The methods of employing these different vulcanization accelerators vary in accordance with one or another of the difficulties which have been mentioned above. It is therefore rather difficult to discuss the details in a simple communication of the character of this one.

"If our friends from the other side of the Atlantic are in doubt of the well founded character of our claim to the discovery of these new principles which are so fundamental to vulcanization and in fact to the entire rubber process, if they wish to substantiate the correctness of certain of their patents, it will be very easy for me to establish by means of real evidence that they have no right to priority in this invention, at least as far as America is concerned.

"As far as the case of para nitrosodimethylaniline is concerned, of which I spoke to Mr. Peachey at the time that he used this accelerator in vulcanization, this accelerator had been used scientifically and industrially in the United States since 1910, and the use of this accelerator was given up because there were too many difficulties surrounding its practical application.

"I recall having used this vulcanization catalyst for the manufacture of rubber stoppers which were used in my laboratory, and the results of the vulcanization were deplorable. Paranitrosodimethylaniline is a substance which I do not care to make use of in industrial vulcanization, particularly at the present time because of the great many difficulties that surround its practical application.

Properties of a Good Accelerator

'In conclusion, I will say that the properties of a good accelerator are not only the capability of the catalyst to accelerate the vulcanization of the rubber molecule, but also to improve the physical characteristics of the vulcanized products. It must indeed soften the rubber and render it immune from all deterioration. All the facts which have been disclosed in this article were discovered in America, and the manufacture of vulcanized rubber articles which possess properties superior to those obtained with the best natural gum mixtures is today a matter of industrial significance and is being carried out on a large scale.

"The manufacture of a *noble rubber,* which is in some way analagous to the *noble metallic alloys* is today a *fait accompli.*"

In rendering due tribute to the work done on this important matter by Spence, a work which without doubt is the most important that has been carried out in the rubber field since the memorable discovery of vulcanization by Goodyear, a work which surpasses to a certain degree, particularly from a practical standpoint, the investigations which were carried out by Harries and Otto Weber, it is to be regretted that it has been thought advisable not to reveal any information on the manner in which the different accelerators enter into reaction during the progress of vulcanization of the rubber molecule. It is also regrettable that nothing has been said of the dissociable intermediary compounds formed during this process and the character of these compounds. Nothing furthermore, has been said regarding the modifications that may have been induced in the valence of the element sulphur.

We shall give more consideration to these questions at a latter point.

Work Done Since 1911

Since the year 1911 the problem of accelerating vitalyzers of rubber and of activated vulcanization of the rubber molecule has been studied in all its details by Spence and by his collaborators. These investigations have been carried out not only from the laboratory standpoint but have also been applied to actual practical vulcanizing conditions. In the beginning the Diamond Rubber Co. was the beneficiary of all this work, and thereafter, when consolidation had taken place, the Goodrich company benefitted from these discoveries.

Accordingly, with respect to the date, November 16, 1921, which is the date of the first patent obtained by the Bayer company relative to the use of organic accelerators in the vulcanization of rubber, the work of Spence is prior, a fact which is indisputable. But the secrets of these investigations and these discoveries had been so well guarded that before his communication of 1917 at the Boston meeting, very little was known on this important subject.

(Continued in Next Issue)

EDITOR'S REVIEW DESK

Books **Trade Catalogs** **Articles**

THE ULTRA-VIOLET MICROSCOPE IN THE STUDY OF VULCANIZED LATEX GLOBULES. By Henry Green, New Jersey Zinc Co., Palmerton, Pa. Presented before the Division of Rubber Chemistry at the 69th Meeting of the American Chemical Society, Baltimore, April 6th. Published in the August issue of *Industrial & Engineering Chemistry*.

The impossibility of obtaining photomierographs of vulcanized microsections with the Zeiss ultra-violet microscope because such sections were not transparent to wave length 0.275μ and the discovery that unvulcanized sections were transparent to this length produced a new method for studying the disposition of the sulphur in vulcanized rubber. The latex is diluted with distilled water and spread out on a quartz microscope slide, which is allowed to dry. The latex is composed of three types of globules, suspended in the serum and stabilized with ammonia. The first type comprises the large pear-shaped globules; the second type is much smaller in diameter and round; the third is nearly colloidal in size. Dispersing in ammonia and squeezing the globules under a cover glass brings out the three types distinctly. The three types of globules are always present, but squeezing creates an abnormal number of the colloidal type and produces the medium sized type in chain groups. When latex globules dry in contact they adhere. When a thin sheet of dried latex is stretched the globules will be connected with links. These links show strong resistance and therefore are elastic. Because of experimental difficulties encountered, a study of these links has not been successful. It has been determined that the links are vulcanizable but it is not known whether the sulphur is evenly distributed.

The ultra-violet microscope has shown that the sulphur of carbon bisulphide does not absorb wave length 0.275μ but absorption does take place as soon as any free sulphur is dissolved in the carbon bisulphide.

* * *

A MANUAL OF RUBBER PLANTING COMPANIES. Compiled by Zorn & Leigh-Hunt, 3 and 4 Great Winchester Street, London, E.C. 2, England.

The selection of rubber companies listed in this manual covers a wide field and should prove a valuable reference book for executives and manufacturers who need information regarding concerns in Malaya, Ceylon and adjacent territories. Directors, capital, area under cultivation and similar lines of information are given, and a portion of the book is devoted to an explanation of the Stevenson Restriction Scheme as applied to various estates.

* * *

SYMPOSIUM ON THE OXYGEN AGING TEST. Further Developments and Applications of the Bierer-Davis Oxygen Aging Test. Representing the major portion of a discussion under the leadership of J. M. Bierer, Boston Woven Hose Co., before the Division of Rubber Chmistry, at the 69th Meeting of the American Chemical Society, Baltimore. Published in *Industrial and Engineering Chemistry* for August.

In their contribution to this discussion, J. M. Bierer and C. C. Davis show that their study and research extending over a year, in which a wide variety of rubber compounds from numerous manufacturers were used, developed oxidation as the main factor involved in the deterioration of vulcanized rubber in the dark under natural conditions. The tests also indicated that years of natural aging can be duplicated in a few hours by increasing the concentration of oxygen. The oxygen bomb test, developed for this purpose, has become of great value in discovering the effect on the aging of ingredients. and also the conditions of treatment and cure.

This article is a thorough exposition of the experiments carried out. Experiments with ultra-accelerator stock and high-grade carbon black stock are given; also results of tests with fire hose tubes and red inner tubes. The curing of stocks with sulphur chloride and the increased rate of deterioration are some of the features discussed.

John D. Morron and Harold E. Webster of the United States Rubber Co. contribute an article on the "Application to Factory Control of Stocks" and Hugh L. Thomson, Aeolian Co., Meriden, writes on the "Value in Testing Rubber Tubing and Rubberized Fabrics." Others taking part in the symposium are H. P. Pushee, General Tire & Rubber Co., Akron, "Application to Tire and Tube Stocks" A. A. Somerville, R. T. Vanderbilt Co., New York, "Aging of Rubber Goods in Oxygen at Atmospheric Pressure"; W. E. Glancy, Hood Rubber Co., "Use in Control of Rubber Stocks"; W. W. Vogt, Goodyear Tire & Rubber Co., Akron, "Behavior of Tire Stocks by Various Aging Methods"; H. A. Winkelmann, B. F. Goodrich Rubber Co., "Aging with and without Anti-oxidants." and Webster N. Jones, B. F. Godrich Rubber Co., "A Low-Temperature Combustion Method for Oxidation of Rubber,"

* * *

EFFECT OF HUMIDITY IN RUBBER TESTING. By R. B. Stringfield, of the Goodyear Tire & Rubber Co., Akron. Presented before the Division of Rubber Chemistry at the 69th Meeting of the American Chemical Society, Baltimore, April 6. Published in the August issue of *Industrial & Engineering Chemistry*.

Differences in the relative humidity of the air to which rubber test sheets are exposed greatly influence the phyiscal properties of the cured sheets. The effect on the slope of pure gum is as great as 70 per cent and is often as large as 10 to 20 per cent. The proportion of variation is governed by the rubber content for stocks of the same type of acceleration. The effect of humidity in a stock is present before and after cure, Stocks accelerated with diphenylguanidine or triphenylguanidine show that the higher the humidity before cure the lower the slope of the cured stock. With all other stocks, the higher the humidity before cure, the higher the slope of the cured stock. The effect is reversible after cure and with difficulty before cure. Exposure to the same humidity at a higher temperature increases the effect slightly in the direction of increasing humidity.

* * *

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR SURGICAL OPERATING PADS. Circular of Bureau of Standards No. 245.

Pads of the reversible type, made of smooth single coated rubber sheeting, are recommended in this circular. General requirements cover measurements and quality and detail requirements include a discussion of fittings, content, fabric and finish. Sampling and packing and marking are also outlined.

* * *

I. R. I. TRANSACTIONS, for June, 1925. Issued bi-monthly by the Institution of the Rubber Industry, London.

This is the first issue of this publication, which will be the official organ of the Institution of the Rubber Industry. In addition to articles on the Acidity of Raw Rubber, by G. Stafford Whitby and Gutta-Percha by C. W. H. Howson, the issue carries a list of officers and council, editorials, Institution news and an outline covering the objects of the Institution.

* * *

ATLANTIC STATES SHIPPERS ADVISORY BOARD. Proceedings of the Seventh Regular Meeting, Atlantic City, July 8-9.

The report of the Rubber Committee estimates that the next quarterly imports of crude rubber at North Atlantic ports will approximate 87,000 gross tons. This means an increase of approximately 25 per cent over the same period last year. Movement of this tonnage will require about 3,500 cars. Maryland tire manufacturers are expected to increase equipment 40 per cent.

The Market Place

WHERE TO OBTAIN
Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical and engineering services, etc.

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ACCELERATORS — Two new accelerators: Vulcone and Di-ortho-tolylguanidine.
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CARBON BLACK
nine grades for the rubber industry.
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Harshaw, Fuller & Goodwin Co.
Cleveland, Ohio

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.
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BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.
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CARBONEX — Increases strength and durability of any compound while reducing the cost.
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CLAY — COTT'N BLOSS'M
Brand. Absolutely uniform and gritless. Send for five-pound laboratory sample and prices.
The American Pigment Co.
Ravenna, Ohio

THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, Sept. 1, 1925

Although the yield indicated by the Department of Agriculture in their mid-August crop report published on the 24th—13,990,000 bales—was lower than the trade had been led to believe by the average of private estimates, the fact that it showed an increase of 424,000 bales over the official forecast made at the beginning of the month was sufficient to prevent any modification of bearish sentiment. Since that time the bears have become even more confident as the result of scattered rains in Texas and of generally lower temperatures.

Due to the rapidly increasing movement of new cotton, the belief that hedging pressure will soon cause a substantial decline is so widely accepted that discouraging features in the crop situation have received but scant consideration. Not the least important of these is that fully 2,000,000 acres have either been abandoned since June 25th or have such poor stands that they will not be picked. The Weekly Weather & Crop Report issued recently contained numerous unfavorable details which, however, failed to cause more than a temporary halt in the downward trend of prices. A favorable feature of the report was the comparatively small amount of damage done by insects but a full crop is far from being assured.

Picking and ginning, as a result of the hot and dry period experienced for the last few weeks, is proceeding at an unprecedented rate for this time of year and it is expected that the amount of cotton ginned up to Sept. 1 will approximate 1,500,000 bales, exceeding by a wide margin the record, established in 1923, of 1,142,660 bales ginned to the same date. Heavy ginnings, early in the season, have seldom preceded a large yield, the explanation being that these ginnings were only made possible by the forced maturity of the plant sapping its vigor and preventing full development. This year, however, much of the seed was planted unusually early and was of a quickly maturing variety. In consequence, no surprise will be occasioned if the early ginning figures prove to be an accurate indication of a large crop.

Activity in the primary dry goods markets has not been up to expectations but quotations continue to be firmly maintained and the aggregate of small orders is of fair proportions and seems to indicate that retail stocks are small. The demand for rayon and cotton mixed fabrics continues to feature the trading in fine goods but staple constructions are quiet.

New York Prices

	Open	High	Low	Close	Close Aug. 18
October	22.02	22.17	21.95	22.11	23.39
December	22.25	22.42	22.20	22.35	23.69
January	21.72	21.86	21.65	21.80	23.20
March	21.97	22.13	21.95	22.10	23.49
May	22.25	22.46	22.25	22.42	23.78

TIRE FABRICS

New business in tire fabrics during the past fortnight was limited owing to the seasonal lull in buying. Traders are not expecting much improvement until the middle of September when large users are expected to start figuring on their needs for winter. Current inquiry is for small quantities to fill in. The price situation has been unchanged with quotations holding firm to previous levels. Competition for business is still very keen.

CORD FABRICS

Combed Sakellarides		Nominal		
Combed Peeler	lb.	Nominal		
Carded Peeler		.50	@	.51
Combed Egyptian uppers	lb.	.65	@	.70
Carded Egyptian uppers	lb.	.58	@	.63

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	Nominal		
17¼-ounce Egyptian uppers, carded	lb.	.59	@	.61
17¼-ounce Sakellarides, combed	lb.	Nominal		
17¼-ounce Peeler, carded	lb.	.47	@	.49

Ducks—During the last two weeks there was a steady demand for quick delivery duck, much of which was not filled owing to limited supplies of stock goods and nearby mill shipments. A fair amount of business was negotiated. Buyers were not unwilling to contract three or four weeks ahead when it became evident that better deliveries were unavailable. Prices were fairly steady. Demand has fairly well covered the list.

Burlaps—Prices of burlaps have fluctuated considerably in the past two weeks. Users resisted advances and when prices went higher on certain days little business was done. Lack of confidence featured the market. Buyers were afraid to place business because of the doubt which existed as to whether the next day would see lower quotations. Inquiry was fair but transactions were slow in developing and the movement was limited.

SHEETINGS

40-inch	2.50-yard	yd.	.14¾	@	.15
40-inch	2.85-yard	yd.	.12⅝	@	.12¾
40-inch	3.15-yard	yd.	.13½	@	—
40-inch	3.60-yard	yd.	.10⅞	@	.11
40-inch	3.75-yard	yd.	.10¼	@	—
40-inch	4.25-yard	yd.	.08⅞	@	.09

DUCKS

Belting	lb.	.41	@	.42
Hose	lb.	.41	@	.42
Enameling	lb.	.42	@	.46
Shoe Ducks	lb.	.48	@	.50
Single filling	lb.	.19	@	.20½
Double filling	lb.	.22	@	.23

BURLAPS

(Carload Lots)

7½-ounce 40-inch	7.85	@	—	
8 -ounce 40-inch	7.95	@	—	
10 -ounce 40-inch	10.30	@	10.35	
10½-ounce 40-inch	10.50	@	10.55	

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2976 E. 81st St., Cleveland, Ohio

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MOLDS AND CORES—
Tire building equipment; general machine work.
The Akron Equipment Co.
Akron, Ohio

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use vast quantities of raw materials and equipment. Let the industry know how well you can serve it through a listing in this section.

RECLAIMED RUBBER—
for all purposes.
Rubber Regenerating Co.
Naugatuck, Conn.

THE MARKET PLACE Section Continued on Second Page Following.

Reclaimed Rubber

NEW YORK, Sept. 1, 1925

Since our last report there has been a drop in most grades of reclaimed which followed lower scrap and crude prices. At this writing the market is firm and demand continues in good force from all branches of the industry, especially tire and mechanical goods manufacturers. Reclaimers plants are working at peak capacity on contracts and no let-up is expected for some time. Prices follow:

Friction (Uncured)				
No. 1	lb.	.50	@	.55
No. 2	lb.	.40	@	.45
High Tensile Black				
Super-Reclaim No. 1	lb.	.27	@	.29
" " No. 2	lb.	.17	@	.18
Shoe				
Unwashed	lb.	.10½	@	.11
Washed	lb.	.13½	@	.14
Tube				
No. 1 (Floating)	lb.	.26	@	.27
No. 2 (Compounded)	lb.	.19	@	.19½
Tires				
Black unwashed	lb.	.10	@	.11
Black, washed	lb.	.12	@	.13
Black, selected tires	lb.	.13	@	.13½
Dark Gray	lb.	.14½	@	.15
Light Gray	lb.	.16	@	.16½
White	lb.	.19	@	.19½
Truck	lb.	.11	@	.11½
Miscellaneous				
Mechanical Blends	lb.	.08	@	.09
Red, High Grade	lb.	.18	@	.18½

Scrap Rubber

NEW YORK, Sept. 1, 1925

Reclaimers continue to stay out of the market and the amount of dealers buying did not reach any large proportion during the past two weeks. But the greater strength in crude rubber made the trade more hopeful and holders were not offering quite as freely as previously. Tubes are displaying a firmer undertone but quotations are practically unchanged. Dealers purchasing mixed tires for Butler delivery cut their bids again, bidding $23 to $23.50 delivered. For Akron delivery the price is still around $25.

Auto tire peelings		.01½	@	—
Standard White auto	ton	25.00	@	—
Mixed auto	ton	23.00	@	23.50
Bicycle tires	ton	10.00	@	11.00
Clean solid truck tires	ton	33.00	@	36.00
Boots and shoes		.02¼	@	.02⅜
Arctics, untrimmed		.01	@	.01⅛
Arctics, trimmed		.01⅜	@	.01⅛
Inner tubes, No. 1		.07⅝	@	.08
Inner tubes, compounded		.06⅝	@	.07
Inner tubes, red		.05	@	.05¼
Air Brake Hose	ton	16.00	@	18.00
Rubber hose	ton	16.00	@	17.00

Crude Rubber

NEW YORK, Sept. 1, 1925

The future of the crude rubber market is said to depend on consumers support for the local situation even in view of the increased arrivals and taking into consideration the 10 per cent additional release last month and the 6,500 tons of old rubber released did not greatly change the condition of the market. Shipment offerings from London and the East were small with the undertone indicating a firm market and higher prices to come, for London considers that American consumers have not greatly curtailed production and at the present rate consumption will more than take up present stocks with resulting higher prices.

But opinions differ. Some point to the four-day-week schedule in force with some manufacturers and to heavy tire stocks in the hands of dealers. They can see nothing but a decidedly easier market. They expect a reduction in production of 20 per cent at least.

A firm market developed on the 25th and 26th when dealers showed their hands as buyers. Consumers also showed more interest both in ribs and latex on all positions. But the market closed on the 27th with an easier tendency prevailing. Few buyers made their appearance and the small dealers showed a tendency to do business. Consumers remain out of the market and with discouraging reports from Akron, their assistance as buyers is not to be expected. Arrivals are expected to fall short of earlier expectations. With only two steamers reaching port, it is believed that the total August tonnage will be about 26,000 tons, with the consumption practically 30,000.

Consumers have been willing to withhold their support on their September requirements in view of the unsettled condition of the market and the possibility that September will see a decided curtailment in production. This will be brought about by the fact that tire dealers are having difficulty in turning over their present stocks.

The market was quiet today. Cables from abroad reported a firm market. There is a scarcity of buyers, however, in all markets, and it is difficult to judge future positions.

NEW YORK MARKET

Plantations—			
Ribbed Smoked Sheets			
Spot	.89	@	—
September	.86	@	—
October	.82	@	—
Oct.-Nov.	.80	@	—
November	.78½	@	—
Oct.-Dec.	.78½	@	—
First Latex, crepe spot	.90	@	—
Amber Crepe, No. 2, spot	.82	@	—
" " No. 3,	.81	@	—
" " No. 4,	.80	@	—
Brown Crepe, Rolled	.65	@	—
" " Clean, thin	.80	@	—
" " Specky	.78	@	—
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.73½	@	—
" Medium	.65	@	—
" Coarse	.49	@	—
Islands, Fine	.65	@	—
Acre Bolivian, fine	.74	@	—
Tapajos, fine	.68	@	—
Cut Beni Bolivian, fine	.69	@	—
Caucho Ball—			
Upper, shipment	.53	@	.54
Centrals—			
Central, scrap, prime	.54	@	—
Corinto, scrap	.55	@	.56
Esmeraldo, sausage	.55	@	.56
Guayule, w and d	.64	@	—
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" red	Nominal		
Kassai, Prime Red	Nominal		
Balata—			
Block, Columbia	.54	@	—
" Cuidad	.57	@	—
Surinam, sheet	.71	@	—
Gutta Percha—			
Siak	.23	@	—
Red Macassar	2.80	@	3.00
Chicle—			
Mexican, Yucatan	.68	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—	
Spot	42½d
September	42½
Oct.-December	38
Jan.-March	35

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—	
Spot	37⅛d
October	36¼
Oct.-December	35⅜
Jan.-March	31⅞

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Exclusive Selling Agents for
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For cutting all rubber, composition and plain or impregnated fabrics.
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All grades for the rubber manufacturer.
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5 William St., Belleville, N. J.

THERMOMETERS—Recording, controlling temperature and pressure controllers.
American Schaeffer & Budenberg Corp.
Berry & South Fifth Sts., Brooklyn

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MOLDS & CORES
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For Heels, Soles and Mechanical Rubber Goods.
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Mills, Calenders, Grinders, Washers
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ZINC OXIDES — Including KADOX and "Albalith."
The New Jersey Zinc Sales Company
New York Pittsburgh Chicago
Cleveland San Francisco

CHEMICALS & COMPOUNDING INGREDIENTS

Accelerators — Colors — M.R. — Compounding Ingredients
Softeners — Vulcanizing Ingredients — Rubber Substitutes

NEW YORK, September 2, 1925—Rubber compounding material manufacturers and dealers find present conditions in the rubber industry much to their liking. Rubber manufacturers in all lines—tires, mechanicals, footwear and sundries—are working almost to capacity and demands for standard compounding ingredients continue at a high level. Usually at this time of the year factories are working on reduced summer schedules but this year is an exception. Prices are firm with only minor changes noted. Several of the inorganics increased slightly but on the whole prices were unchanged. Today's quotations follow.

ACCELERATORS

Organic			
Aldehyde ammonia, crystals	lb.	$ .90 @	.93
Aniline oil, drums	lb.	.17 @	.17½
Di-Ortho-Tolylguanidine	lb.	1.10 @	1.13
Diphenylguanidine	lb.	.95 @	.98
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.28 @	.34
Formaldehyde-Aniline	lb.	.40 @	.42½
Hexamethylene-tetramine	lb.	.80 @	.82½
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
Super-Sulphur No. 1	lb.	.50 @	.55
Super-Sulphur No. 2	lb.	.18 @	.30
Tensilac, No. 41	lb.	.65 @	—
Tuads	lb.	4.50 @	5.00
Thiocarbanilide, kegs	lb.	.25 @	.32
Triphenylguanidine	lb.	.70 @	.75
Vulcone	lb.	.75 @	.79
Zimate	lb.	5.00 @	—
Inorganic			
Lead, sublimed blue	lb.	.10 @	—
Lead, white	lb.	.10¾ @	—
Litharge, domestic	lb.	.11½ @	—
Lime, superfine	lb.	.01½ @	.02
Magnesia, calcined, light	lb.	.24 @	.25
extra light	lb.	.40 @	.45
heavy	lb.	.04 @	.06½

COLORS

Blacks			
Arrow "Aerfloted"	lb.	.07½ @	.12
Bone Black	lb.	.05½ @	.11
Carbon "	lb.	.07 @	.11
Drop "	lb.	.07½ @	.14
Ivory "	lb.	.12 @	.45
Lamp "	lb.	.12 @	.40
Micronex	lb.	.08 @	.12
Thermatomic carbon	lb.	.04 @	.08
Blues			
Cobalt	lb.	.21 @	.26
Prussian	lb.	.35 @	.36
Ultramarine	lb.	.08 @	.35
Browns			
Iron oxide	lb.	.02¼ @	.06¼
Sienna, Italian	lb.	.04 @	.14
Umber, Turkey	lb.	.04 @	.06
Vandyke, domestic	lb.	.03 @	.03½
Greens			
Chrome, light	lb.	.28 @	.30
medium	lb.	.30 @	.32
dark	lb.	.31 @	.34
commercial	lb.	.09 @	.10
Chromium Oxide, bbl.	lb.	.37 @	.39
Reds			
Antimony crimson, 15/17 F.S.	lb.	.43 @	.45
sulphur free	lb.	.46 @	.49
golden, 15/17 F.S.	lb.	.17 @	—
pentasulphide, pure,	lb.	.35 @	.38
15/17 F.S.	lb.	.33 @	.36
red sulph.15-17F.S.	lb.	.16 @	.20
Indian English	lb.	.11 @	.15
Oximony	lb.	.13½ @	—
Para toner	lb.	.90 @	1.00
commercial	lb.	.13½ @	.14½
Red oxide, reduced	lb.	.04 @	.12
pure	lb.	.12 @	.14
Toluidine toner	lb.	1.85 @	2.10
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.35 @	1.40
domestic	lb.	.15 @	.25
Whites			
Albalith	lb.	.05⅞ @	.06⅛
Aluminum bronze		— @	—
Lithopone, Akcolith	lb.	.06 @	.06½
Lithopone, Azolith	lb.	.05⅝ @	.06⅛
Zinc Oxide—American Process XX red	lb.	.07½ @	.07¾
Kadox, black label, kegs	lb.	.10⅝ @	.11¼
blue " " "		.09⅝ @	.10⅛
red " " "		.08⅝ @	.09⅛
American Azo: ZZZ (lead free)	lb.	.07¼ @	.07¾
ZZ (under 5% leaded)	lb.	.07 @	.07½
Z (8-10% leaded)	lb.	.06¾ @	.07¼
Zinc Oxide—French Process White seal	lb.	.12 @	.12¼
Green seal	lb.	.10¾ @	.11¼
Red seal	lb.	.09¾ @	.10¼
Yellows			
Chrome, light		.18 @	.18½
dark and medium	lb.	.18 @	.18½
Cadmium Sulphide	lb.	1.20 @	1.50
Ocher, French medium	lb.	.02½ @	.02⅝
domestic	lb.	.01½ @	.02½

COMPOUNDING INGREDIENTS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.17 @	.18
Ammonia carbonate	lb.	.12 @	.13½
Asbestine	ton	18.00 @	20.00
Barium carbonate	ton	54.00 @	56.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	22.00 @	23.00
imported	ton	27.00 @	35.00
Basofor	lb.	.04½ @	—
Blanc fixe, dry f.o.b. works	lb.	.04 @	.04¼
Carrara filler	lb.	.01¾ @	.02
Chalk, precip., extra light	lb.	.04¼ @	.05
heavy	lb.	.03¼ @	.04
Clay, China, domestic	ton	15.00 @	25.00
Catalpo (fact.)	ton	35.00 @	38.00
Dixie	ton	20.00 @	35.00
Blue Ridge, Dark	ton	9.00 @	—
" Light	ton	12.00 @	—
Langford	ton	12.00 @	22.00
Glues, extra white	lb.	.21 @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.11 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Infusorial earth, powdered	ton	23.00 @	25.00
bolted	ton	15.00 @	20.00
Liquid latex	gal.	3.00 @	—
Magnesia, carbonate	lb.	.08¼ @	.09
Mica, powdered	ton	65.00 @	80.00
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	4.07 @	4.55
Talc, domestic	ton	16.00 @	18.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	1.00 @	1.15
gilder's bolted	cwt.	1.25 @	1.35
English cliffstone	cwt.	1.50 @	—
Paris whiteAmerican	cwt.	1.25 @	1.50
Quaker	ton	13.00 @	15.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	35.00 @	45.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	35.00
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	75.00
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids			
Acetic, 28%	cwt.	3.00 @	3.25
Cresylic, 97%	gal.	.59 @	.63
95%		.57 @	.60
Muriatic, 20%	cwt.	.90 @	1.00
Nitric, 36 degrees	cwt.	4.50 @	4.75
Sulphuric, 60 degrees	ton	10.00 @	11.00
66 degrees	ton	14.00 @	15.00
Tartaric, crystals	lb.	.29 @	—
Alkalies			
Caustic soda, 76%	cwt.	3.20 @	—
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½
Oils			
Castor, No. 3, bbls.	lb.	.15½ @	—
Corn, crude, bbls.	lb.	.12 @	—
refined	lb.	.13¼ @	—
Cottonseed, crude		.09¾ @	—
Glycerine C.P. drums	lb.	.19 @	.19½
Linseed, RawC.L.bbl.	gal.	.97 @	—
Palm, Niger	lb.	.09 @	—
Lagos	lb.	.09¼ @	—
Peanut,domestic,crude	lb.	.13 @	—
Petrolatum, white		.10¾ @	.11
amber		.03⅝ @	.03⅞
dark amber	lb.	.03⅜ @	.03½
Pine, steam distilled	lb.	.65 @	.66
Rapeseed, refined	gal.	1.02 @	1.03
blown	gal.	1.05 @	—
Rosin, first rectified	gal.	.63 @	.64
second rectified	gal.	.66 @	.67
Soya Bean, crude		.13¼ @	.13⅛
Tar, commercial	gal.	.30 @	.32
Resins and Pitches			
Parra M.R.	lb.	.06 @	.07
Tar Retort	bbl.	14.50 @	15.00
kiln burned	bbl.	14.50 @	15.00
Pitch, Burgundy	lb.	.06 @	.06½
coal tar	gal.	.05½ @	.06
pine	bbl.	6.00 @	6.50
Rosin, grade K	bbl.	12.85 @	—
Solvents			
Alcohol, denatured, No. 1 bbls.	gal.	.59½ @	.63½
Benzol, 90%	gal.	.22 @	—
pure		.24 @	—
Carbon bisulphide	lb.	.06 @	.07
tetrachloride	gal.	.06¾ @	.07
Dimethylaniline	lb.	.32 @	.34
Motor gasoline, steel bbls.	gal.	.17 @	—
Naptha, V. M. & P.	gal.	.16¾ @	—
Toluene	gal.	.26 @	—
Turpentine, spirits	gal.	1.06 @	1.08
wood	gal.	.93 @	.95
Waxes			
Beeswax	lb.	.55 @	.65
Carnauba, No. 1	lb.	.37 @	.38
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
ParaffineWhite,A.M.P.	lb.	.05¼ @	.05⅝
Yellow A.M.P.	lb.	.05⅛ @	.05¼
Sweet wax	lb.	.12 @	—

SUBSTITUTES

Black	lb.	.08 @	.15
White	lb.	.09½ @	.16½
Brown	lb.	.10 @	.15
Brown factice	lb.	.09 @	.18
White factice	lb.	.09½ @	.16½

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.18 @	.20
Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.04½ @	.05
Sulphur flour Commercial bags	cwt.	1.35 @	1.70
" bbls.	cwt.	1.70 @	—
Superfine, bags	cwt.	2.20 @	2.50
" bbls.	cwt.	2.60 @	2.90
100% pure, refined, bags	cwt.	2.35 @	2.65
bbls.	cwt.	2.60 @	2.90

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This Weeks News

- *this week*

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Vulcanization DU PONT *Accelerators*

TECHNICAL ABSTRACTS

Acceleration of Vulcanization

At a recent meeting of the Manchester Section of the Society of Chemical Industry a paper was read on the use of accelerators in vulcanization. It was stated in the paper that there are three ways in which the process of vulcanization may be accelerated. It was not thought that the action of the accelerator was in the nature of a catalysis, for most accelerators take an actual part in the reaction in an irreversible manner. Organic accelerators have been developed from "softeners" and "anti-agers" and it was interesting to note that in the modern development of these bodies the actual accelerating action was often incidental and that their real value lay in their effect upon the physical properties of the vulcanisate or upon enhanced ageing properties. In fact a more apt definition would be that an accelerator was a substance, which when added to a rubber-sulphur mixture, would give a vulcanized product with better properties than would be obtained from the same mixture without its use.

The advantages to be gained by the use of accelerators were shortening of the time of cure, improving the mechanical properties of the vulcanized product, improving the ageing properties, avoidance of "blooming" since free sulphur in the vulcanizate was reduced to a minimum, vulcanizing at a low temperature, softening of the mix and lessening of the variability of the raw rubber.

Attention was called to the various tricks in the use of accelerators. The use of different accelerators in different layers of thick goods to overcome the bad conductivity of the rubber is mentioned as one of these. Then again the fabric may be painted with a solution of the accelerator before treatment with rubber in order to obtain a better binding between the rubber and the fabric. Litharge decreased the activity of para nitrosodiphenylaniline. Antimony sulphide was said to reduce the effectiveness of diphenylguanidine. This effect can be minimized by the addition of zinc oxide. Rubber substitutes retard the action of the most of basic accelerators but this was probably due to the traces of acid

Oil from Vulcanized Rubber

The object of the process (British Patent No. 226,475) is to obtain by the distillation of vulcanized rubber an oil which is a substitute for turpentine and which is a solvent for rubber and copal resin. In order to obtain this oil very finely divided vulcanized rubber is distilled at normal or reduced pressure, either alone or in the presence of an alkali, an alkali carbonate, or an alkaline earth. These alkalies are added for the purpose of fixing the sulphur. The distilling apparatus is provided with a reflux condenser to condense and return the heavy products such as sesqui and poly terpenes and to assist the formation of light products. To avoid the incrustation of the walls of the distilling apparatus a stirring device is provided and the final product is a fine black powder.

In an alternative method the vulcanized rubber may be dissolved by heating it in an autoclave at a pressure of from six to ten atmospheres with the aid of a suitable solvent and then distilled as before. The crude distillate is an oil of brown color and strong odor, and contains tars and sulphur compounds.

This oil is purified by distilling it in the presence of a mineral acid, such as sulphuric, phosphoric, metaphosphoric, pyrophosphoric, boric, etc. This coagulates the hot tars, eliminates the sulphur in the form of sulphuretted hydrogen and also acts as a depolymerization agent. The oil is further purified by agitating with a solution of sodium hypochlorides or sodium bisulphite, and then caustic soda. The oil is finally washed with water, separated by decantation or centrifugal force, and then filtered through a material such as fuller's earth. The final product is a colorless liquid without odor, resembling turpentine.